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should be written on note size paper, with ink, and  
sent by mail.

Sublimates of New England.

The difficulty of trying to describe or  
predict the weather, as a whole, for even a  
small section like New England is shown by  
the official reports of the weather and crop  
service. Not only does the New England  
climate sustain therein its reputation for  
frequent and extreme changes from day to  
day, but it appears likewise that weather  
conditions are very different in various parts  
of the section named, the differences being  
so great as to very decidedly affect the yield  
of farm produce.

Thus in Kineo, Me., Claremont and Strat-  
ford, N. H., and Morrisville, Vt., the last  
killing frost occurred as late as the middle  
of June, 1902, while in southern Con-  
necticut no killing frost appeared after  
April 5, certainly a great difference from a  
market gardener's point of view. Within  
the limits of a single State the frost varia-  
tion may be almost as great. Thus in Mon-  
roe, Mass., killing frosts occurred last on  
May 10 and began again Sept. 6, while in the  
mid-sea climate of Nantucket Island the  
last frost was on March 27, and no more  
appeared until Nov. 3. The town first  
named is in a somewhat elevated district,  
but is surrounded by still higher land,  
which possibly interferes with frost drain-  
age. Such conditions cause great variation  
within a short distance in States partly on  
the seaboard and partly among the moun-  
tains.

But interior States, running north and  
south, naturally show some variation within  
their extreme limits. Thus spring frosts  
left Vernon, Vt., May 10, while Enosburg  
Falls suffered as late as June 10. But towns  
on the lake shore, like Burlington, escaped  
these late frosts on account of the protec-  
tive influence of the water.

The highest day's temperature recorded,  
94, was, as might be expected, in south-  
ern Connecticut, but Bridgeton, Me., came  
second with 93°. The annual mean tempera-  
ture ranges from about 41° in some of the  
mountain towns of Maine to about 50° in  
parts of southern New England. The low-  
est thermometer record for the year is 20°  
below, reached by several towns in northern  
New Hampshire and Vermont.

Rainfall varies surprisingly, even in the  
same State. Thus while Carmel, Me., had  
over sixty-three inches of rainfall, Portland  
and Eastport, two widely distant points in  
the same State, had each about forty inches  
of rain. Even in little Rhode Island the  
year's rainfall varied from less than thirty-  
eight inches at Bristol to over fifty inches  
at Kingston. Similar variations occur be-  
tween different points in other States. In  
general, the favored points seem to be  
mostly on the coast or in elevated regions.  
The heaviest rainfall was at Morrisville, Vt.,  
where over sixty-eight inches of rain came  
down, including over nine inches in June,  
while Northfield in the same State received  
less than five inches during the same month.

These facts show some of the reasons for  
the great variation in crop reports from  
different parts of New England or even  
from different parts of the same State.  
Naturally a town in an area favored with a  
long season and plenty of rain would reach  
different results from a place where the  
growing season for tender crops was a  
month or two shorter and the rainfall only  
half as great. This point is illustrated in  
the corn crop. A strip through central  
New England from north to south, by no  
means all in the valley of the Connecticut  
river, produced in 1902 about forty-three  
bushels per acre, while in Hampden County,  
Mass., containing much fertile valley land,  
the crop was from thirty to thirty-three  
bushels per acre. In Orange County, Vt.,  
the crop was forty-two to forty-five bushels,  
while the adjoining county of Addison had  
only thirty to thirty-three bushels per acre.  
It is evident, then, that the New England  
weather not only varies greatly from day to  
day, but also differs very considerably ac-  
cording to conditions in different localities.  
Still another point of variation should be  
borne in mind when considering the most  
important of subjects. Not only are there  
various changes in various  
localities, but the changes themselves  
shift about more or less from season  
to season. Thus a region in southern Con-  
necticut, which had little rain in the summer  
of 1901, may have plenty in 1902, while a  
portion of eastern Massachusetts, abun-  
dantly supplied in 1901, may suffer compara-  
tively drought in the following year. The  
lines of heavy rainfall are very uncertain  
from year to year, partly on account of  
the anticyclonic showers, which may  
deluge certain districts at the expense of  
other locations nearby. In the same way  
localities which escape the early and late  
frosts in a certain season may not be so  
lucky on the following season, since the cold  
spell causing the frost may be so severe as

to affect almost all parts of the State or sec-  
tion, regardless of advantages which would  
serve as protection against a moderate fall  
of temperature.

## Expert Grass Management.

Four tons of hay per acre is the achieve-  
ment of George D. Leavens of Grafton,  
Mass. Unlike the friends of the Clark  
system, Mr. Leavens lays even more stress  
upon topdressing than upon cultivation.  
The trouble is, he says, that most farmers  
expect a single dressing to last four or five  
years. His methods, however, somewhat  
resemble those of Clark. The following  
extract from his paper read at Worcester,  
Feb. 28, gives an idea of the system fol-  
lowed:

In preparation of the soil the furrow  
should be deep. The turning over by the  
furrow-slice does not give as good results as  
to leave the furrow-slice standing erect,  
where it can crumble away. The object of

I prefer the last of August or the first of  
September as the time to sow. I wish to  
speak emphatically against the practice of  
sowing grass seed in standing corn or grain  
crops. The ground cannot serve two masters,  
no more than a man can. The best thing to  
sow with grass is plenty of grass. The next  
spring the crop should have a topdressing  
of chemicals. A field treated in this way will  
be fresh and green when others are dry and  
frozen. Three formulas of fertilizers were  
given with their component parts and the  
results. The first was as follows:

Clark's formula per acre: Nitrate of soda,  
100 pounds; muriate of potash, 160 pounds;  
fine ground bone, 480 pounds; total, eight  
hundred pounds. Fertilizing, organic nitro-  
gen, 14.4 pounds; nitrogen as nitrate, 25.6  
pounds; total nitrogen, forty pounds; actual  
potash, eighty pounds; available phosphoric  
acid, 28.8 pounds; free lime, none. Cost for  
nitrate of soda, \$3.36; muriate of potash,  
\$3.20; ground bone, \$7.20; total, \$13.76.  
Tons of hay per acre, five; cost of fertilizer

lime which was valuable in his heavy and  
damp soil. The formula he used in 1902 was  
Grafton formula, 1902, per acre: Nitrate of  
soda, two hundred pounds; muriate of  
potash, two hundred pounds; basic slag,  
four hundred pounds. Total, eight hun-  
dred pounds. Fertilizing, organic nitro-  
(all nitrates), thirty-two pounds; actual potash,  
one hundred pounds; available phosphoric  
acid, sixty-four pounds; free lime, 183.2  
pounds. Cost, nitrate of soda, \$4.20; muri-  
ate of potash, \$4; basic slag, \$3; total,  
\$11.20. Tons of hay per acre, four; selling  
price of hay per ton, \$15 to \$18; value of  
hay per ton over cost of fertilizer, \$12.20 to  
\$15.20.

A formula which Mr. Leavens said he was  
going to use in 1903, Grafton, 1903, per acre:  
Nitrate of soda, three hundred pounds; mu-  
riate of potash, 250 pounds; basic slag, four  
hundred pounds; total, 980 pounds. Fertilizing  
nitrogen (all as nitrate), forty-eight  
pounds; actual potash, 125 pounds; available  
phosphoric acid, sixty-four pounds; free

lime, 183.2 pounds. Costing, nitrate of  
soda, \$6.30; muriate of potash, \$3; basic  
slag, \$3; total \$14.30.

If one dressing is to be made a year, he  
said, he would recommend Clark's formula;  
if more than one dressing, the formula he  
was using at present. (Grafton, 1903).

He spoke of the importance of lime to the  
soil. Many kinds of grass will not grow in  
acid soils. Wood ashes and quick lime are  
most commonly used. Wood ashes costs a  
little more, but it is easier to handle.

On a farm Mr. Leavens had a number of  
seeding mixtures which he said gave good  
results. They were as follows: Timothy,  
22½ pounds; redtop, twenty pounds; red  
clover, six pounds; total, 48½ pounds. He  
said was the heaviest mixture he ever  
used and required a good deal of topdress-  
ing. Other mixtures: Timothy, sixteen  
pounds; redtop, sixteen pounds; red clover,  
eight pounds; total, forty pounds.  
Timothy, fifteen pounds; redtop, 7½  
pounds; red clover, 7½ pounds; total, thirty  
pounds.  
Timothy, 19.50 pounds; redtop, 15.75  
pounds; red clover, 7.50 pounds; total, 42.75  
pounds.  
Timothy, twenty pounds; redtop, ten  
pounds; total, thirty pounds.

Italian rye-grass, eight pounds; orchard-  
grass, ten pounds; red corn, four pounds;  
tall cat grass, eight pounds; tall fescue, ten  
pounds; total, forty pounds.  
Redtop, thirteen pounds; orchard-grass,  
eighteen pounds; meadow fescue, nine  
pounds; red clover, four pounds; total,  
forty-four pounds.

## Better Buy than Rent.

Do you ask if success can be attained on  
the farm? I answer that I most assuredly  
believe it can. What one calls success, how-  
ever, another may not. Instead of renting a  
farm, I am decidedly in favor of buying.

If you cannot buy as much land as you  
would like, then buy what you can, even if  
but five acres, but so as it with the deter-  
mination of making a permanent home. The  
plan that some practice of moving about  
every one or two years is not a good one,  
so I say, buy a little land and add to it; if  
you like, as opportunity and means present

of success. I commenced with the deter-  
mination to "stick to it," make a good farm  
and build a pleasant home. Have always  
read a good many agricultural papers, been  
a member of the Grange for many years and  
never wasted time sitting on the cracker  
barrel at the store. The evenings have  
almost always been spent at home. I have  
always been building and improving the  
farm, and have set out many fruit and  
ornamental trees. We now raise a good  
deal of fruit, and that, too, of a good many  
different kinds. Have never been over-  
strong, hence my success could have been  
much greater if I had been possessed of a  
better degree of health.

A good and profitable farm cannot be  
made in one year or two; but a little can be  
done each year towards an improved condi-  
tion, and by and by an excellent farm will  
be found to be located where, in former  
years, an uninteresting piece of property  
was to be seen. Remember that courage,  
perseverance and industry will work won-  
ders.  
F. H. Dow.  
New York.

## Saving and Using Manure.

The manure must be carefully saved and  
judiciously applied to the land if we are to  
get the full benefits of feeding out of the  
products of the farm on the farm. On many  
farms, nearly, if not quite, half of the manure  
is wasted. It is either thrown out under  
the eaves or is wheeled out and dumped into  
the yard, one wheelbarrowful in a place.  
Here the rains wash it, and much of the  
valuable part goes off into some ditch or  
hollow.

On a farm where the rotation of crops is  
practiced, and it certainly should be if we  
are to take the easiest way of keeping up  
the fertility of the land, I am thoroughly  
convinced that the best place to apply  
manure is on the grass land, either meadows  
or pastures. The land should be in grass or  
clover two-thirds of the time. The chem-  
ist tells us that there is about as much  
value in the liquid manure as in the solid.  
Therefore, we should have tight  
gutters in our stables and use absorbents,  
such as cut up butts of corn fodder, straw,  
land plaster, manure from the horse stable,  
etc.

The best way is to haul the manure out  
every day and spread from the wagon or  
sled when the weather will permit. Now, if  
it is on grass or clover, go over with a har-  
row as soon as convenient in the early  
spring, before the lumps of manure get dry  
and hard, and give it a good harrowing.  
This will make the manure fine; scratch up  
the ground a little and mix some of the  
manure with the soil.

Done in this way it makes no hurt in the  
hay, the yield of hay is increased and it  
makes a thick, heavy sod, and the humus in  
the soil will be greatly increased, so that in  
this way we seem to get the benefit of the  
manure twice over; and second, by the in-  
creased richness of the soil as a result of  
the heavy root growth, which adds an extra  
amount of humus to the soil.

C. P. GOODRICH.

Fort Atkinson, Wis.

## Sensible Farm Buildings.

We are often told that ample buildings  
should be provided as the first step in the  
organization of a farm, but I think neces-  
sary buildings should be first erected, and  
enlarged and improved as the wants of the  
farm require and the means of the farmer  
allows.

Farm buildings should be as near the  
centre of the cultivated land as possible. In  
this way the distances of travel and trans-  
portation are shortened. The buildings  
should be neat, well proportioned and im-  
posing, if large; modest, if small. We re-  
member when the old-style gambrel roof  
and the long, sloping rear roof were in  
fashion; the doorway, as it was called, was  
always adorned by a solitary elm tree,  
which may now be seen standing sentinel  
in its old age, towering in some cases above  
the spot where the house stood. From this  
solitary illustration we have gone on to the  
extensive landscape gardening.

The farmhouse is now, or should be,  
surrounded by trees and shrubs and  
flowers, and by a well-kept lawn. The  
additional labor required for this is small;  
the cheerful and healthful effect on mind  
and body is large. A bright and cheerful  
home, outside and inside, is one of the needs  
of the farmer who would perform his part  
well and inspire his children with taste and  
desires which will add to their happiness  
and increase their usefulness. Good land,  
well-selected crops, good seed, good  
animals, good buildings, a good home, with  
tasteful surroundings, every farmer can  
have, if he will resolve in early life and  
devote himself to his resolution.  
Massachusetts. FRANK B. ALLEN.

There is no question but that young  
cattle will gain more on a given amount of  
feed than older ones will, but as a rule they  
grow, they do not attain. I put in a load of  
1140-pound cattle only fairly fleshy, fed  
them 5½ months and came within twenty  
cents of topping the Chicago market. I  
bought them in December at \$3.80 in Chi-  
cago and sold them in June for \$5.95; while  
a load of extra fine fleshy steers that  
weighed about 830 pounds was put on full  
feed one month earlier and sold more  
than three months later and they came  
no nearer topping the market  
than the first lot. They cost \$4.25  
and sold at \$6.65 on at least a fifty-cent  
better market. I really had to feed these  
light cattle more than four months longer  
to get twenty cents a hundred more, and I  
paid forty-five cents per hundred pounds  
more for them because they were so fine.  
It certainly did not pay. At this time espe-  
cially, if not at all times, cattle should have  
age and condition to warrant a full feed of  
sixty-cent corn.  
HON. W. W. COLE.



GIANT REDWOODS OF CALIFORNIA.

plowing is to pulverize, aerate and worm  
the land. A heavy outway wheel harrow  
is the best to use, and it should be kept  
going fifteen or eighteen times. Ridding a  
harrow is as good for one as an ocean voyage,  
and has about the same rolling effect. This  
harrowing puts the weeds where the sun  
will reach and kill them.

Persistent harrowing is necessary to pro-  
duce a perfect seed bed, warm and mellow.  
I don't believe we can make the prepara-  
tion of too much importance. If lime is  
used, it should be mixed in thoroughly with  
the harrow. All stones and litter should  
have been removed. After harrowing with  
the outway harrow is the best time to  
apply chemical fertilizers. Then a spike  
harrow should be used to level the ridges,  
make the soil even, and mix in the fertil-  
izer. Then comes the brush harrow or the  
weeder—I always use the latter.

Before undertaking the sowing of the  
seed it is well to calculate the size of the  
field. A field should always be cross-seeded.  
Care should be taken to sow the whole field  
or the bare spots will amount to consider-  
able percentage. After another going over  
with the brush harrow or weeder, the roller  
presses the seeds down and starts the cap-  
illary action which puts the seeds in life.

per ton of hay, \$2.75; selling price of hay  
per ton, \$15 to \$18; value of hay per ton  
over cost of fertilizer to produce it, \$12.25 to  
\$15.25.

The second formula was that used by Dr.  
Wheeler of the Rhode Island Agricultural  
Station. Dr. Wheeler had had some very  
wonderful results in raising grass on land  
that was hardly able to raise anything be-  
fore he fertilized it. His formula is as fol-  
lows:

Nitrate of soda, 350 pounds; muriate of  
potash, three hundred pounds; acid phos-  
phate, five hundred pounds; total, 1150  
pounds. Fertilizing, organic nitro-  
(all nitrates), fifty-six pounds; actual potash, 150 pounds;  
available phosphoric acid, sixty-five pounds;  
free lime, none. Cost, nitrate of soda, \$7.35;  
muriate of potash, \$6; acid phosphate, \$2.50;  
total cost, \$16.85. Tons of hay per acre,  
4.50; selling price of hay per ton, \$15 to \$18;  
value of hay per ton over cost of fertilizer  
to produce it, \$11.25 to \$14.25.

The formula used by Mr. Leavens himself  
he called the Grafton formula. He called  
attention to his use of basic slag and to the  
large amount of free lime produced. The  
use of this mixture, he said, gave better re-  
sults than either of the other  
formulas. He attributed it largely to the

lime, 183.2 pounds. Costing, nitrate of  
soda, \$6.30; muriate of potash, \$3; basic  
slag, \$3; total \$14.30.

If one dressing is to be made a year, he  
said, he would recommend Clark's formula;  
if more than one dressing, the formula he  
was using at present. (Grafton, 1903).

He spoke of the importance of lime to the  
soil. Many kinds of grass will not grow in  
acid soils. Wood ashes and quick lime are  
most commonly used. Wood ashes costs a  
little more, but it is easier to handle.

On a farm Mr. Leavens had a number of  
seeding mixtures which he said gave good  
results. They were as follows: Timothy,  
22½ pounds; redtop, twenty pounds; red  
clover, six pounds; total, 48½ pounds. He  
said was the heaviest mixture he ever  
used and required a good deal of topdress-  
ing. Other mixtures: Timothy, sixteen  
pounds; redtop, sixteen pounds; red clover,  
eight pounds; total, forty pounds.  
Timothy, fifteen pounds; redtop, 7½  
pounds; red clover, 7½ pounds; total, thirty  
pounds.  
Timothy, 19.50 pounds; redtop, 15.75  
pounds; red clover, 7.50 pounds; total, 42.75  
pounds.  
Timothy, twenty pounds; redtop, ten  
pounds; total, thirty pounds.

themselves; and at all times have in mind  
the importance of improving the soil and  
making it richer every year. People talk  
about the farm running out; but it is en-  
tirely unnecessary to have the soil become  
poor, in my estimation. Corn, clover and  
cows will do wonders in making a farm rich  
and keeping it so. Grow all you can of these  
three and see how you come out. Do not be  
discouraged in one trial, but persevere.

When I first knew the Mass. PLOUGH-  
MAN it floated at its masthead this legend,  
"Improve the soil and the mind." What a  
grand motto for every farmer to adopt. It  
ought to be engraved in letters of gold on  
every farmer's mail box. If every farmer  
would constantly endeavor to improve his  
soil and his mind, who can say what would  
be the results to the country? The farmer  
must never think he is too poor to take at  
least one of the best agricultural papers he  
can find. It will be the best investment he  
can possibly make, and two or three would  
be better.

When I started on my own account at  
farming it was on wild land, with very little  
capital and not a sign of a building on it.  
We had to clear some land to get a place to  
build the house. We have not got rich, to  
be sure, but we have met with some degree



# Fruit Growing, Truck, Etc., on Light Soils.

SEND FOR LATEST PAMPHLETS, 1903, ENTITLED  
**STRAWBERRIES, STRAWBERRY PLANTS, SMALL FRUITS, ASPARAGUS, CABBAGES, POTATOES AND GENERAL TRUCK CROPS FOR MARKET.**

Thinnest, lightest, poor soils brought up into good condition with large profits from start. Experience in some cases of 25 years and over. Some extracts from "Fertilizer Farming Up to Date," "Rural New Yorker" etc. by H. W. Collingwood, Editor "The Rural New Yorker."

ALSO FOR FERTILIZERS AND FRUIT.

"FERTILIZERS AND FRUIT," by H. W. Collingwood. Under this latter title Mr. Collingwood has written a series of articles in the Rural New Yorker, descriptive of his visits to some of the most prominent and successful growers on the Hudson River, New York, of grapes, peaches, apples, pears, strawberries, gooseberries, blackberries, currants, etc. Mr. Collingwood gives full details of the preparation of the ground, fertilizing, setting out, cultivation, pruning, and all practical details necessary for any grower to know who wishes to follow the methods that have made this section so famous for success in fruit growing. The questions asked by Mr. Collingwood of these practical growers elicited answers that bear directly on each phase of the subject, and furnish the best practical experience, and also bring out the principles that underlie successful

fruit culture, and which are applicable in a less or greater degree to all sections, and we believe this book will prove valuable to growers of fruit on all classes of soils, particularly peaches and grapes. One point that is especially emphasized in these interviews, as related by Mr. Collingwood, is the great importance of developing the highest fruiting power, not only in quantity, but in quality of fruit, lusciousness, high color, early maturity, good shipping qualities, and at the same time full vigor of vine, trees and shrubs, freedom of disease, healthy, vigorous stamina, without any tendency to excessive wood growth.

Dr. F. M. Hexamer, in the American Agriculturist.

## GENERAL FARMING

SEND FOR LATEST PAMPHLET, 1903, ENTITLED,

**FERTILIZER FARMING UP TO DATE.**

CHEMICALS AND CLOVER—THIRD SERIES.

The Poorest, Light, Sandy Soils Brought Up to

High Fertility with PROFIT FROM THE START.

A review of practical experience covering twenty to twenty-five years on varied soils, from almost pure sand to medium heavy loam, without stable manure, only the Mapes Complete Manures used, with profit from the start, and the lands found to be steadily improving in fertility and yielding increased profits. These farmers and special crop growers are among the most successful in the country.

"FERTILIZER FARMING," by H. W. Collingwood, editor of "The Rural New Yorker." An account of visits to farms of successful truckers, growers of cabbages, cauliflower, potatoes, etc., on Long Island. This pamphlet has received the highest praise of the leading agricultural journals. It is thoroughly practical.

**Increase Yield from only 400 lbs. per acre Potato Fertilizer**

Mr. J. S. VAN EATON, Xenia, Ohio, reports: "Season 1902 used the Mapes Potato Manure on four acres of potatoes, planting three varieties."

Yield in bushels computed per acre:

|                        | Variety No. 1 | Variety No. 2 | Variety No. 3 |
|------------------------|---------------|---------------|---------------|
| Mapes Potato, 400 lbs. | 190.50        | 142.00        | 105.00        |
| No Fertilizer          | 106.30        | 122.00        | 97.50         |
| Increase in bushels    | 84.20         | 20.00         | 7.50          |

This gives a total increase, on three acres, of 264 bushels, or an average of 88 bushels per acre. My total planting was four acres and say increased yield was easily upward 350 bushels. Cost of fertilizer with freight, \$24.50. Potatoes at digging season were worth 40c., now 60c. Have sold but few so that with no future losses I estimate a large profit.

**FIFTY ACRES IN POTATOES.**

Messrs. Geo. M. Hewlett & Co., Merrick, L. I., Season 1902, report total yield, 12,500 bushels of superior quality. Only the Mapes Manure used.

**APPLE ORCHARDS.**

A grower writes: "We have 600 trees on the farm in New Baltimore, N.Y. But three tons of the 'Mapes Complete Manure, 10 per cent. Potash,' were used on only about one-half of the trees. The 1,600

barrels of apples we picked were nearly all from the trees that we fertilized; the other trees had only a few apples on them. We spread the fertilizer in a circle of about 20 feet, using 20 pounds per tree."

**Potato Yields, Season 1902.**

See pamphlets for further details.

Eighteen acres Potatoes yield 2,200 barrels, equal to 305 bushels per acre. Two and one-half acres Potatoes yield 925 barrels, equal to 411 bushels per acre. Several crops 350 to over 400 bushels per acre on single acres, usually one ton Mapes Potato per acre, wheat, Timothy, clover and corn follow, making a rotation of some five years. The fertilizer is used mainly on the "money" crop, potatoes.

The grower of the eighteen acre piece of potatoes, yield 305 bushels per acre, used of the Mapes Manures the past season, 1902:

|  |          |
|--|----------|
| Mapes Potato Manure                          | 200 tons |
| Mapes Cabbage Manure                         | 100 tons |
| Mapes Fruit and Vine Manure for strawberries | 50 tons  |
| Mapes Vegetable Manure for string beans      | 25 tons  |

Another grower used the past season:

|                          |          |
|--------------------------|----------|
| For asparagus, 165 acres | 250 tons |
| For potatoes             | 87 tons  |
| For cabbage              | 17 tons  |

Shipped, 1901, of cabbage, from seven acres, over 3,500 barrels, with 1,000 barrels left unsold.

Branch, 242 State Street  
 HARTFORD, CONN.

**THE MAPES FORMULA AND PERUVIAN GUANO CO.**

143 LIBERTY STREET  
 NEW YORK.

SELLING AGENTS FOR MASSACHUSETTS:

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W. A. Dunham, Ashley Falls.  
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 J. A. Brewer, Great Barrington.  
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 Deerfield, Sunderland, Whately and North  
 Hatfield.

### The Horse.

How a Horse Can Talk.

The conversational ability of a horse formed part of the testimony adduced in court on the trial of a suit of veterinary surgeon Frank Roberge to recover \$100,000, from the estate of Robert Bonner, says the New York Sun. Roberge managed Mr. Bonner's horses for years, and he says that Mr. Bonner agreed to leave him, as compensation, a bequest of \$100,000. No such legacy was in the will. "A horse," said the vet on the stand, "must be thoroughly understood by any one who attempts to treat it. You must know it well, talk with it and understand its language." "Do you mean to say that a horse can talk?" he was asked. "Why, certainly he can, in his way. If a horse knows you are going to treat him, he will hold out his leg or his foot, if the trouble lies there. Once he thinks you can do him good, he'll soon take means to let you know what his ailment is, if possible." "And does he talk to every one like that?" "Oh, no, only to those he knows and who know him." "Well, will he talk that way to a horse-shoer?" "Not at all. A horse-shoer cannot tell what ails a horse." "But the shoeing of a horse is most important, is it not?" "Of course. But it takes a skilled veterinary surgeon to prescribe shoes for a horse, just as an oculist glasses. You can improve the speed and gait of a trotting horse from ten to twenty seconds by properly shoeing him. I examined and treated the great Dexter, for instance, and I found him weak behind. I supervised the making of his hind shoes and improved his condition greatly."

There is a good deal of significance in the recent purchase by Thomas W. Lawson of the show-ring champions, Puritan and

Dainty Daffo, for breeding purposes and his reasons therefor, told in a letter to the American Horse Breeder:

Is it not a significant straw pointing to the scarcity of good material when one is compelled to withdraw such finished product for brood-mare purposes? I am so in need of brood mares that I keep my people going constantly from Boston to California and Maine to Tennessee, through the private breeding farms and all of the public sales, and yet, while I stand ready to pay any reasonable price for anything that would measure to our standard at the sale just closed in New York, there were but four we cared to bid on, and those we bought. I really think the Breeder can do no better service for breeders generally than to keep constantly dinging into their ears the fact that the country is fairly pinning for first-class horses, American trotting bred, and that the pinning cannot be satisfied at any price; that is, there is a market at very profitable prices for all the good trotting horses that can be raised, but be sure in your dinging to bear down on the fact that it is good trotting horses that are in demand, for the more one studies the problem, the more one becomes impressed with the fact that it is the good trotting horse that is scarce—the beautiful individual, the physically perfect, well-bred, intelligently trained and broken trotting horse.

The skeleton of the great race horse and sire of race horses, Hanover, is soon to be placed by the side of that of the famous trotter and sire of trotters, George Wilkes in the museum of the Kentucky State College at Lexington. J. H. Wallace, the founder of the Trotting Stud Book, a few years ago volunteered to defray the expense of taking up the bones of Rysdyk's Hambletonian and mounting them for the museum of natural history in New York city, says the Horseman, but those who controlled the property where Hambletonian was buried objected, and Mr. Wallace's plan to preserve the skeleton of the renowned trotting progenitor had to be abandoned.

John R. Gentry (2004) has been leased from E. H. Harriman of New York by Campbell Brown of Spring Hill, Tenn., for a period of two years.

Carrots are a watery food and tend to make soft flesh and an overloaded digestive system. Their use for horses is as a relish and appetizer rather than as a substitute for more solid foods.

Horses by Baron Wilkes (218) are in popular demand. Baronade changed hands three times at the Fasig-Tipton sale. Mayor J. M. Johnson bid him off at \$1000, sold him shortly afterwards for \$2000, and the purchaser who paid \$3000 sold him for \$3000.

**Cured Bad Fists and Running Noes.**  
 The Lawrence-Williams Co., Cleveland, O., Jan. 26, 1903.  
 We used Gombault's Caustic Balsam on fistula and cured it in about four months. This fistula was very bad, on both sides of the shoulder; run at four or five places, and one side was terribly swollen and a network of pipes. We had used three other remedies and all failed. We also used it on a horse for running sore which was obstinate to other medicines. I cured the sore in two weeks.  
 A bottle of Gombault's Caustic Balsam can always be found at our stable.  
 CHARLES RHODES, Kent, O.



**GOMBAULT'S CAUSTIC BALSAM**

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Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Scurf, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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### Bees and Honey.

Many beekeepers have a strong prejudice against the king bird, or as it is sometimes called, the "bee martin," from its having been noticed flying about the hives and often catching bees. We regret this, because, while not among the most common of our summer birds in New England, it is with us from the first of May until about the middle of September, the length of its stay and the time of its return varying according to the mildness of our season. It breeds the stomachs of the contents of the hives, and while apparently busy in catching insects on the wing at all seasons, it is the most so when there is a nest of young to be fed. At that time it is at work helping the farmer from early dawn until twilight, and if it occasionally catches a bee it also catches large numbers of insect pests. But we believe that its reputation has suffered unjustly under the charge of molesting bees. When these birds have been shot or near the apiary, and even around the hives, an examination of the contents of the stomachs has shown seldom more than one working bee to dozens of drones and scores of other insects. The worker bee is evidently too hotly spiced for the ordinary diet even of a king bird. But it is an especial enemy of the bee moth, and as such may often be of more service to the beekeeper than of possible injury. It is also an inveterate enemy of the crow, and when it finds one of the black thieves prowling about the nest of one of our small singing birds, nearly all of which are insect eaters, there is a quick call for its mate, and alone, or in pairs, this small but swift fighter will attack the crow and drive him a mile away from the spot where it was looking for young birds or eggs to satisfy its appetite. Nor does it hesitate to attack the hawk or eagle in the same way, and I do not able to tell its larger adversary, the swiftness of its flight for assistance to others of its kind, are sure to bring it off the victor.

There is so little that can be done for the bees at this season of the year, and doing nothing to or for them is so much better than too much interference with them, that we feel almost tempted to drop this column until the weather is such that the hives may be safely opened, the colonies examined, feeding begun and new queens given, if either of these are needed. But with bees as with all other branches of agriculture, the winter as a leisure time furnishes opportunity for reading, studying and planning for the future, as many feel that they cannot do when there is more active work to be done. Let us then take time to look at some of the points in beekeeping that are least well understood.

Even among experts there is a difference of opinion as to the best size and shape of the hive to use. While the eight-frame Langstroth hive is the most popular, there are those who claim that a ten or twelve-frame, or even a double hive of sixteen frames, is better. Possibly they are correct under certain conditions. In California and the middle Western States, where the fruit orchards of hundreds of acres are as frequent as those of ten acres are here; where there are great fields of white clover, alfalfa, buckwheat and beans; where the trees of bass-wood, almost unknown in Massachusetts, form no small part of their shade or forest trees, and where even

the weeds are sweet clover and catnip or other nectar producing plants, it may be very desirable to have colonies of double size, with storage room in proportion to receive the honey flow while it lasts. But in the Eastern States that lack much of this abundance of honey-producing plants, we think the eight-frame hive is large enough, with supers of the same size, whether working for comb or extracted honey. This makes hives and supers when well filled as heavy as many care to handle, and to double the size would be to debar women and old men from the work of caring for the bees. Seldom will a colony here gather honey enough to fill two supers with their surplus in a favorable season, and provide stores for their winter supply.

Speaking of the large honey flows in the West and the Pacific States, reminds us that we saw awhile ago a letter from California in Gleanings, in which the writer said he had just answered an inquirer who wanted to know if there was a honey flow more apiaries there, by writing him that on a road nearly twelve miles long there were over 1200 colonies of bees. Think of that! We do not know of a road five times that long in New England where one could find 1200 colonies, and perhaps not in ten times twelve miles in a direct road. We do not think there is any section here where so many bees could find enough to live on, to say nothing of storing surplus honey, but we think many sections could well supply a much larger number of colonies than they have. This is especially true of those places where there are large orchards or fields of small fruits. And if to this were added a little more care in sowing and promoting by the use of land plaster the growth of white clover in our pastures, by occasional sowing of small fields of buckwheat, and the possible lengthening of the bees' tongues by breeding from queens from colonies that are known to work in red clover, there might be a large increase in the feeding capacity for bees in our fields.

The white clover is a valuable addition to the pastures for dairy stock or for sheep. Buckwheat, straw, stalks and all, into the yards or scratching sheds for the hens to work over is among the best and cheapest poultry foods that can be grown upon the farm if given in moderate amount, as the scratching it over to get out the grain gives the fowl exercise as well as food. The common annual sunflower also supplies a large amount of nectar for the bees and food for poultry if the English sparrows can be kept from them until the seeds ripen. Many of our ornamental shrubs and the annual flowers in our gardens, our beans and peas and our weeds furnish nectar in greater or less amounts, and we think ten acres not in forest would carry a colony of bees, and as they are known to fly five miles, an acre five miles square should supply two thousand colonies.

**Quality in Maple Syrets.**  
 Over \$1,000,000 is received by maple-sugar makers in Vermont every year. In spite of this fact, the stock is badly marketed and falls short of its possibilities. The wholesale trade of the country will not handle the best qualities after the opening lot or first run because the retail trade will not take it. The retailers state they can make more money on an inferior product, and when the question of quality is thoroughly

understood there will be a revolution and a greater demand for first-class products. Much of the trouble arising from the inferiority of the second run or the sugar that was made the last of the season is that not enough pains is taken to keep the utensils thoroughly cleaned.

Syrup should be put up in small quantities, thereby keeping it fresh, while in large quantities it deteriorates. There is no uniform quality and this can be attained by co-operation among producers. In May there is always a big demand for maple products, because it is fresh. There is no reason why this demand should not be kept up throughout the year if the quality can be maintained. The quality can be maintained if the manufacturers will co-operate.  
 H. W. VAIL.  
 Randolph, Vt.

### Root Systems of Forest Trees.

Hickory produces a strong, persistent tap root, and these species persist on account of these tap roots seeking crevices in rocks and penetrating the soil deeply, so that they can flourish in poor, rocky soils. On the other hand, oaks do not have such a persistent tap root, but soon develop secondary roots, and on this account oaks in general require a more moist soil than hickories.

The tap root of the beech develops strongly at a time, but in the course of a year a broad system of lateral roots is developed, the tap root being checked in its further growth. Similar root systems are found in the maple and red ash, and these trees require a rich soil for their best growth. The sugar maple develops lateral roots quite early, and in general trees which develop strong lateral root systems in their early stages are not adapted to growth on sterile soil. Attention is called to the fact that in desert regions all the shrubby plants develop long tap roots.

**Cord Crusher.**  
 Planks lapped over like shingles on a roof are nailed crosswise over a strong frame six feet. It is drawn over the field by chain and whiffletree like a plain drag, and does more thorough work, mashing the lumps and working out dirt from the plowed sod.—W. C. Lewis, Steuben County, N. Y.

**Jottings by Dairymen.**  
 Most of the present pure breeds are the result of crossing. The best breeds of today will now and then produce mongrel types. John E. Gifford, Worcester County, Mass. If farmers wish to win dairy prizes, they must look out and get the last drop of milk from the cow.—W. Elliott Morse, Worcester County, Mass.

Some farmers question as to whether it is cheaper to buy cattle or to raise them. It is my experience it is more satisfactory in the own cattle, he is apt to select the particular stock which is adapted to his purpose, and to breed with definite end in mind. Good care and cleanliness are absolutely necessary in raising high-bred cattle.—C. D. Richardson, Franklin County, Mass. I find it does not pay to raise even pure-bred calves, unless they are of registered stock and have a pedigree that will make

them sell for more than the common stock. It would pay farmers in the districts where land is cheaper, but for us who are near the cities pure-bred stock or heavy milking cows are the only lines which it pays to keep.—Charles H. Ellsworth, Worcester County.

**Action of Wood Ashes.**  
 Ashes differ from lime in that they carry some plant food, soluble potash, from ten to twelve per cent., insoluble 15 per cent. Much lime is also found. The beneficial action of ashes is not due to potash alone, but to the soluble nitrogen and soluble phosphoric acid they contain. Much effect is due also to the lime contained. One hundred pounds of ashes contains thirty to forty pounds lime, the amount of potash varying somewhat. If we change the water-holding capacity of the soil we are changing its physical nature. We must consider the kind of ashes used, as the different woods vary. Soft wood does not contain quite as much potash as hard wood. Hard wood has only six or seven per cent., while maple has ten. There is a difference in the same kind of wood grown in different places. Canadian birch has but 8 per cent. potash, while that in Maine contains twelve. Cedar in Maine also has a larger per cent. than that grown in Canada.  
 Orono, Me. PROF. C. D. WOODS.

A piece of misfortune to New England commerce is the recent new outbreak of the hoof and mouth disease in New Hampshire. Its appearance in a part of the State where its presence had not been suspected is disquieting, since the event shows that the disease is not confined quite within its supposed limits. Fortunately only one head was exposed in the case of the infected cattle shipped to Boston, and prompt measures were taken to stop danger from that source. It is hoped that the outbreak is confined within very narrow limits, but the recurrence will necessarily postpone the resumption of cattle trade between the States, and further delay the opening of the New England ports to the export cattle business.

**Fertilizer Information From Mass.**  
 The Bradley Fertilizer Works, Lowell, Mass., are the leading authorities on the proper fertilizer to use in a given soil for a given crop. If you will write to them they will gladly send you full information as to what is best to use, and incidentally you will learn why Bradley Fertilizers are the favorite of the world over. No other fertilizer equals Bradley's in sale, and certainly there is no prettier safety of the money invested in the quality of Bradley Fertilizers. The various brands are for sale in most every locality, and farmers can depend on them as they are fertilizers of known quality and will produce crops that will secure the highest prices.

**Cured a Horse Spavin of Two Years Standing.**  
 OTWAY, O., Jan. 1903.  
 I used your Gombault's Caustic Balsam upon a bone spavin of two years' standing. It has entirely stopped all lameness, and we are working the horse in a lumber wagon every day. I used it last June and July, and worked the horse at farm work through the time of using it.  
 C. T. McGOWAN.



# MASSACHUSETTS PLOUGHMAN



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## Sublimates of New England.

The difficulty of trying to describe or predict the weather, as a whole, for even a small section like New England is shown by the official reports of the weather and crop service. Not only does the New England climate sustain therein its reputation for frequent and extreme changes from day to day, but it appears likewise that weather conditions are very different in various parts of the section named, the differences being so great as to very decidedly affect the yield of farm produce.

Thus in Kineo, Me., Claremont and Stratford, N. H., and Morrisville, Vt., the last killing frost occurred as late as the middle of June, 1902, while in southern Connecticut no killing frost appeared after April 5, certainly a great difference from a market gardener's point of view. Within the limits of a single State the frost variation may be almost as great. Thus in Monson, Mass., killing frosts occurred last on May 10 and began again Sept. 6, while in the mild sea climate of Nantucket Island the last bad frost was on March 27, and no more appeared until Nov. 3. The town first named is in a somewhat elevated district, but is surrounded by still higher land, which possibly interferes with frost drainage. Such conditions cause great variation within a short distance in States partly on the seaboard and partly among the mountains.

But interior States, running north and south, naturally show some variation within their extreme limits. Thus spring frosts left Vernon, Vt., May 10, while Enosburg Falls suffered as late as June 10. But towns on the lake shore, like Burlington, escaped these late frosts on account of the protective influence of the water.

The highest day's temperature recorded, 91°, was, as might be expected, in southern Connecticut, but Bridgeport, Me., came second with 88°. The annual mean temperature ranges from about 41° in some of the mountain towns of Maine to about 56° in parts of southern New England. The lowest thermometer record for the year is 26° below, reached by several towns in northern New Hampshire and Vermont.

Rainfall varies surprisingly, even in the same State. Thus while Carmel, Me., had over sixty-three inches of rainfall, Portland and Eastport, two widely distant points in the same State, had each about forty inches of rain. Even in little Rhode Island the year's rainfall varied from less than thirty-eight inches at Bristol to over fifty inches at Kingston. Similar variations occur between different points in other States. In general, the favored points seem to be mostly on the coast or in elevated regions. The heaviest rainfall was at Morrisville, Vt., where over sixty-eight inches of rain came down, including over nine inches in June, while Northfield in the same State received less than five inches during the same month.

These facts show some of the reasons for the great variation in crop reports from different parts of New England or even from different parts of the same State. Naturally a town in an area favored with a long season and plenty of rain would reach different results from a place where the growing season for tender crops was a month or two shorter or the rainfall only half as great. This point is illustrated in the corn crop. A strip through central New England from north to south, by no means all in the valley of the Connecticut river, produced in 1902 about forty-three bushels per acre, while in Hampden County, Mass., containing much fertile valley land, the crop was from thirty to thirty-three bushels per acre. In Orange County, Vt., the crop was forty-two to forty-five bushels, while the adjoining county of Addison had only thirty to thirty-three bushels per acre.

It is evident, then, that the New England weather not only varies greatly from day to day, but also differs very considerably according to conditions in different localities. Still another point of variation should be borne in mind when considering this most uncertain of subjects. Not only are there various changes in various localities, but the changes themselves shift about more or less from season to season. Thus a region in southern Connecticut, which had little rain in the summer of 1901, may have plenty in 1902, while a portion of eastern Massachusetts, abundantly supplied in 1901, may suffer comparatively drought in the following year. The lines of heavy rainfall are very uncertain from year to year, partly on account of the action of heavy showers, which may deluge certain districts at the expense of other localities nearby. In the same way localities which escape the early and late frosts in a certain season may not be so lucky on the following season, since the cold spells causing the frost may be so severe as

to affect almost all parts of the State or section, regardless of advantages which would serve as protection against a moderate fall of temperature.

## Expert Grass Management.

Four tons of hay per acre is the achievement of George D. Leavens of Grafton, Mass. Unlike the friends of the Clark system, Mr. Leavens lays even more stress upon topdressing than upon cultivation. The trouble is, he says, that most farmers expect a single dressing to last four or five years. His methods, however, somewhat resemble those of Clark. The following extract from his paper read at Worcester, Feb. 28, gives an idea of the system followed:

In preparation of the soil the furrow should be deep. The turning over by the furrow-slice does not give as good results as to leave the furrow-slice standing erect, where it can crumble away. The object of

I prefer the last of August or the first of September as the time to sow. I wish to speak emphatically against the practice of sowing grass seed in standing corn or grain crops. The ground cannot serve two masters, no more than a man can. The best thing to sow with grass is plenty of grass. The next spring the crop should have a topdressing of chemicals. A field treated in this way will be fresh and green when others are dry and frozen. Three formulas of fertilizers were given with their component parts and the results. The first was as follows:

Clark's formula per acre: Nitrate of soda, 160 pounds; muriate of potash, 160 pounds; fine ground bone, 480 pounds; total, eight hundred pounds. Furnishing, organic nitrogen, 14.4 pounds; nitrogen as nitrate, 25.6 pounds; total nitrogen, forty pounds, actual potash, eighty pounds; available phosphoric acid, 28.8 pounds; free lime, none. Cost for nitrate of soda, \$3.36; muriate of potash, \$3.20; ground bone, \$7.20; total, \$13.76. Tons of hay per acre, five; cost of fertilizer

lime which was valuable in his heavy and damp soil. The formula he used in 1902 was Grafton formula, 1902, per acre: Nitrate of soda, two hundred pounds; muriate of potash, two hundred pounds; basic slag, four hundred pounds. Total, eight hundred pounds. Furnishing nitrogen (all nitrates), thirty-two pounds; actual potash, one hundred pounds; available phosphoric acid, sixty-four pounds; free lime, 1832 pounds. Cost, nitrate of soda, \$4.20; muriate of potash, \$3.20; basic slag, \$3; total, \$11.20. Tons of hay per acre, four; selling price of hay per ton, \$15 to \$18; value of hay per ton over cost of fertilizer, \$12.20 to \$15.20.

A formula which Mr. Leavens said he was going to use is this: Grafton, 1903, per acre: Nitrate of soda, three hundred pounds; muriate of potash, 250 pounds; basic slag, four hundred pounds; total, 980 pounds. Furnishing nitrogen (all as nitrates), forty-eight pounds; actual potash, 125 pounds; available phosphoric acid, sixty-four pounds; free

lime, 1832 pounds; eight pounds; orchard grass, ten pounds; red clover, four pounds; tall oat grass, eight pounds; tall fescue, ten pounds; total, forty pounds. Redtop, thirteen pounds; orchard grass, eighteen pounds; meadow fescue, nine pounds; red clover, four pounds; total, forty-four pounds.

## Better Buy than Rent.

Do you ask if success can be attained on the farm? I answer that I most assuredly believe it can. What one calls success, however, another may not. Instead of renting a farm, I am decidedly in favor of buying. If you cannot buy as much land as you would like, then buy what you can, even if but five acres, but go at it with the determination of making a permanent home. The plan that some practice of moving about every one or two years is not a good one, so I say, buy a little land and add to it, if you like, as opportunity and means present

of success. I commenced with the determination to "stick to it," make a good farm and build a pleasant home. Have always read a good many agricultural papers, been a member of the Grange for many years and never wasted time sitting on the cracker barrel at the store. The evenings have almost always been spent at home. I have always been building and improving the farm, and have set out many fruit and ornamental trees. We now raise a good deal of fruit, and that, too, of a good many different kinds. Have never been over strong, hence my success could have been much greater if I had been possessed of a better degree of health.

A good and profitable farm cannot be made in one year or two; but a little can be done each year towards an improved condition; and by and by an excellent farm will be found to be located where, in former years, an uninteresting piece of property was to be seen. Remember that courage, perseverance and industry will work wonders. F. H. Dow.

New York.

## Saving and Using Manure.

The manure must be carefully saved and judiciously applied to the land if we are to get the full benefits of feeding out of the products of the farm on the farm. On many farms, nearly, if not quite, half of the manure is wasted. It is either thrown out under the eaves or is wheeled out and dumped into the yard, one wheelbarrowful in a place. Here the rains wash it, and much of the valuable part goes off into some ditch or hollow.

On a farm where the rotation of crops is practiced, and it certainly should be if we are to take the easiest way of keeping up the fertility of the land, I am thoroughly convinced that the best place to apply manure is on the grass land, either meadows or pastures. The land should be in grass or clover two-thirds of the time. The chemist tells us that there is about as much value in the liquid manure as in the solid. Therefore, we should have tight gutters in our stables and use absorbents, such as cut up butts of corn fodder, straw, land plaster, manure from the horse stable, etc.

The best way is to haul the manure out every day and spread from the wagon or sled when the weather will permit. Now, if it is on grass or clover, go over with a harrow as soon as convenient. In the early spring, before the lumps of manure get dry and hard, and give it a good harrowing. This will make the manure fine; scratch up the ground a little and mix some of the manure with the soil.

Done in this way it makes no hurt in the hay, the yield of hay is increased and it makes a thick, heavy sod, and the humus in the soil will be greatly increased, so that in this way we seem to get the benefit of the manure twice over; and second, by the increased richness of the soil as a result of the heavy root growth, which adds an extra amount of humus to the soil.

C. P. GOODRICH.

Fort Atkinson, Wis.

## Sensible Farm Buildings.

We are often told that ample buildings should be provided as the first step in the organization of a farm, but I think necessary buildings should be first erected, and enlarged and improved as the wants of the farm require and the means of the farmer allows.

Farm buildings should be as near the centre of the cultivated land as possible. In this way the distances of travel and transportation are shortened. The buildings should be neat, well proportioned and imposing, if large; modest, if small. We remember when the old-style gambrel roof and the long, sloping rear roof were in fashion; the dooryard, as it was called, was always adorned by a solitary elm tree, which may now be seen standing sentinel in its old age, towering in some cases above the spot where the house stood. From this solitary illustration we have gone on to the extensive landscape gardening.

The farmhouse is now, or should be, surrounded by trees and shrubs and flowers, and by a well-kept lawn. The additional labor required for this is small; the cheerful and healthful effect on mind and body is large. A bright and cheerful home, outside and inside, is one of the needs of the farmer who would perform his part well and inspire his children with taste and desires which will add to their happiness and increase their usefulness. Good land, well-selected crops, good seed, good animals, good buildings, a good home, with tasteful surroundings, every farmer can have, if he will resolve in early life and devote himself to his resolution.

Massachusetts. FRANK B. ALLEN.

There is no question but that young cattle will gain more on a given amount of feed than older ones will, but as a rule they grow, they do not fatten. I put in a load of 1140-pound cattle only fairly fleshy, fed them 63 months and came within twenty cents of topping the Chicago market. I bought them in December at \$3.80 in Chicago and sold them in June for \$5.95; while a load of extra fine fleshy steers that weighed about 800 pounds was put on full feed one month earlier and sold more than three months later and they came no nearer topping the market than the first lot. They cost \$4.25 and sold at \$6.65 on at least a fifty-cent better market. I really had to feed these light cattle more than four months longer to get twenty cents a hundred more, and I paid forty-five cents per hundred pounds more for them because they were so fine. It certainly did not pay. At this time especially, if not at all times, cattle should have age and condition to warrant a full feed of sixty-cent corn. HON. W. W. COLLE.



GIANT REDWOODS OF CALIFORNIA.

plowing is to pulverize, aerate and worm the land. A heavy outway wheel harrow is the best to use, and it should be kept going fifteen or eighteen times. Ridding a harrow is as good for one as an ocean voyage, and has about the same rolling effect. This harrowing puts the weeds where the sun will reach and kill them.

Persistent harrowing is necessary to produce a perfect seed bed, warm and mellow. I don't believe we can make the preparation of too much importance. If time is used, it should be mixed in thoroughly with the harrow. All stones and litter should have been removed. After harrowing with the outway harrow is the best time to apply chemical fertilizers. Then a spike harrow should be used to level the ridges, make the soil even, and mix in the fertilizer. Then comes the brush harrow or the weeder—I always use the latter.

Before undertaking the sowing of the seed it is well to calculate the size of the field. A field should always be cross-seeded. Care should be taken to sow the whole field or the bare spots will amount to considerable percentage. After another going over with the brush harrow or weeder, the roller presses the seeds down and starts the capillary action which puts the seeds in life.

per ton of hay, \$2.75; selling price of hay per ton, \$15 to \$18; value of hay per ton over cost of fertilizer to produce it, \$12.25 to \$15.25.

The second formula was that used by Dr. Wheeler of the Rhode Island Agricultural Station. Dr. Wheeler had had some very wonderful results in raising grass on land that was hardly able to raise anything before he fertilized it. His formula is as follows:

Nitrate of soda, 350 pounds; muriate of potash, three hundred pounds; acid phosphate, five hundred pounds; total, 1150 pounds. Furnishing, nitrogen (all nitrates), fifty-six pounds; actual potash, 150 pounds; available phosphoric acid, sixty-five pounds; free lime, none. Cost, nitrate of soda, \$7.35; muriate of potash, \$6; acid phosphate, \$3.50; total cost, \$16.85. Tons of hay per acre, 4.50; selling price of hay per ton, \$15 to \$18; value of hay per ton over cost of fertilizer to produce it, \$11.26 to \$14.26.

The formula used by Mr. Leavens himself he called the Grafton formula. He called attention to his use of basic slag and to the large amount of free lime produced. The use of this mixture, he said, gave better results on his soil than either of the other formulas. He attributed it largely to the

lime, 1832 pounds. Costing, nitrate of soda, \$6.30; muriate of potash, \$5; basic slag, \$3; total \$14.30.

If one dressing is to be made a year, he said, he would recommend Clark's formula; if more than one dressing, the formula he was using at present. (Grafton, 1903.) He spoke of the importance of lime to the soil. Many kinds of grass will not grow in acid soils. Wood ashes and quick lime are most commonly used. Wood ashes costs a little more, but it is easier to handle.

On a farm Mr. Leavens had a number of seedling mixtures which he said gave good results. They were as follows: Timothy, 225 pounds; redtop, twenty pounds; red clover, six pounds; total, 241 pounds. This he said was the heaviest mixture he ever used and required a good deal of topdressing. Other mixtures: Timothy, sixteen pounds; redtop, sixteen pounds; red clover, eight pounds; total, forty pounds.

Timothy, fifteen pounds; redtop, 73 pounds; red clover, 73 pounds; total, thirty pounds.

Timothy, 19.50 pounds; redtop, 15.75 pounds; red clover, 7.50 pounds; total, 42.75 pounds.

Timothy, twenty pounds; redtop, ten pounds; total, thirty pounds.

themselves; and at all times have in mind the importance of improving the soil and making it richer every year. People talk about the farm running out; but it is entirely unnecessary to have the soil become poor, in my estimation. Corn, clover and cows will do wonders in making a farm rich and keeping it so. Grow all you can of these three and see how you come out. Do not be discouraged in one trial, but persevere.

When I first knew the MASS. PLOUGHMAN it floated at its masthead this legend, "Improve the soil and the mind." What a grand motto for every farmer to adopt. It ought to be engraved in letters of gold on every farmer's mail box. If every farmer would constantly endeavor to improve his soil and his mind, who can say what would be the results to the country? The farmer must never think he is too poor to take at least one of the best agricultural papers he can find. It will be the best investment he can possibly make, and two or three would be better.

When I started on my own account at farming it was on wild land, with very little capital and not a sign of a building on it. We had to clear some land to get a place to build the house. We have not got rich, to be sure, but we have met with some degree



can encourage the one or the other.—Lucy C. Smith.

... Better by far you should forget and smile  
Than that you should remember and be sad  
—Christina Rossetti.

.... Without frugality none can become rich,  
and with it few could be poor. —Johnson.

.... You go on quietly for days and think the  
enemy is dead. Just when you are safest there  
he is again, more alive than ever,—It is the  
saviour's word, "Behold I send you forth as  
sheep among wolves," only the sheep and the  
wolves are both within us. —Phillips Brooks.

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**Brilliants.**

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Beees work for man; and yet they never bring  
Their master's flower, but leave it, having done,  
As fur as ever, and as fit to use;  
So both the flower doth stay, and honey reap.  
—George Herbert.

the longer on this earth we live

And weigh the various qualities of men,  
 Seeing how most are fugitive  
 Or fitful gifts at best, or now and then  
 Wind-wavered copse lights, daughters of  
 Men—  
 The more we feel the high, stern-featured beauty  
 Of plain devotedness to duty.  
 Steadfast and still, nor paid with mortal praise.

but finding amplest recompense  
 or life's ungarlanded expense,  
 In work done squarely and unwasted days,  
 —James Russell Lowell.

If there were smiles for sale  
 At some fair market where  
 The rich, the poor, the high,  
 Might hurry with their change, to buy,  
 What crowds would gather there!  
 Yet there are smiles enough.  
 And each might have his share,  
 If every man could say  
 One—just one—kind thing every day,  
 To lift some other's care.  
 —S. E. Kiser.

Open the door, let in the sun;  
 He hath a smile for every one;  
 He hath made of the raindrops gold and gems,  
 He may change our tears to diadems—  
 Open the door!

Open the door of the soul; let in  
 Strong, pure thoughts which will banish sin;  
 They will grow and bloom with the grace divine,  
 And their fruit shall be sweeter than that of the  
 vine—  
 Open the door! —British Weekly.

He cannot as he came depart,  
 The wind that woos the rose;  
 Her fragrance whispers in his heart,

**Build today then, strong and sure,  
With a firm and ample base;  
And ascending and secure  
Shall tomorrow find its place.**

— Longfellow.

**O God, in every temple I see those who see thee  
and in every tongue that is spoken, thou art  
praised.  
Jehylthem and Islam grope after thee,  
each religion says, 'Thou art one, without equal,'  
it mosque, men murmur holy prayer; or church,  
the bells ring, for love of thee.  
While I frequent the Christian cloister, anon the  
mosque:**

**I look from hence to fane**

**Notes and Queries.**

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rent date was ten days behind the real date. The corrected time by dropping ten days and spring Oct. 4, 1582, followed by Oct. 15. His romancers found that by leaving out of consideration for three years the hours and minutes in excess of 365 days, they would have nearly an entire day every fourth year, which is put into the calendar of Feb. 29, called a leap year. To make extra day, and the minutes which they shed each year made the calendar at the end of a hundred years a little more than a day ahead the real year, so they settled that by dropping the twenty-ninth day of February once every century. This made the calendar agree very nicely with the sun, but not quite, so the Pope

**THE EYE**—"Stilton": The Stockholm Museum presents an interesting collection of eyes taken from human beings at different ages, which are arranged across in such a way as to exhibit plainly the gradual change from external eye. It is easy to observe that the eye of a child is a transparent as water; that of the youth a little less so; in the man of thirty the eye begins to be thickly opaque, in the man of fifty or sixty it is decidedly opaque, and in the man of seventy or eighty it is dull and lustreless. This gradual

**ARSENIC EATERS.—V.** There are people who eat arsenic, notwithstanding the fact that this terrible poison has been abhorred of all ages, and that the use of the ill uses it has been put to by ruderous people who wish to get rid of an insupportable enemy. Arsenic, however, is not more nor less than a constituent element of the tissues of all living beings, vegetable and animal. What arsenic does is to be public, this is the way of death is one of the great supporters of life. Such is the apparent paradox affirmed by f. Armand Gautier, as the result of physiological and clinical observations.

AKES AND SWAMPS.—"D. J.": The content abunds in rich agricultural fields and lowland lands but a few years ago were and expanded of limpid water. The water has been transformed was recently explained by professor Gregory of Yale. In the course of a with the students of his class he spoke of away lakes are filled on one side and drained the other by rivers, and called attention to rapidly with which these lakes are filled by the bringing down of sediment of valleys. As the rivers running into the lakes are silted, but those leading away are clear, slowly such sediment has been left behind. Mississippi river carries yearly to the Gulf thirteen million tons of matter. It is a

but a day's portion of this burden to one of the many ordinary lakes into the lowlands. Some idea of the rapidity with which later the process was completed is the fact that seventy-three of the 149 lakes in the Swiss region have disappeared since 1800. The reason is by either being filled up or drained off. Draining off occurs when a river has been cut back so deep that the water all runs into the Niagara river is doing its best in this respect by cutting as fine a trench as could be made in the earth. It is cutting back toward the west at the rate of over one inch a year. It will kill the lake. Unfortunately, however, the lake is destined to be drained to the sea. Lake Tahoe, a beautiful lake in the

Nevada Mountains, is also one of the best places in time to be killed as a result of the mining process. Peat is one of the most valuable of all minerals, more rapidly than any other of deposits. It is estimated that one-third of Ireland is peat and over one-fourth of the State of Indiana was once a peat bog. The speaker called attention to the peat bog in Florida, which was once a vast swamp, but is now a great area of bogs and swamps, with only a little lake in the middle. So it is a great wonder that the peat bog that had the surface of the lake is fourteen feet higher than the level of the surrounding bogs. The speaker said that it has been formerly forced up into the air. Lakes, swamps, bogs and then garden

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As fair as ever, and as fit to use;  
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And each might have his share,  
If every man would do or say  
One—just one—kind thing every day,  
To lift some other's care.

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Open the door, let in the sun;  
Let each have a smile for every one;  
Let each have of the raindrops gold and gems,  
Let each have a word of cheer for every one;  
We may change our tears to diadems—  
Open the door!

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 they will grow and bloom with a grace divine,  
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Shall tomorrow find its place.  
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praised.  
Jehelthelm and Islam grope after thee,  
each religion says, 'Thou art one, without equal.'  
It mosque, men murmur holy prayer; or church,  
the bells ring, for love of thee.  
While I frequent the Christian cloister, anon the  
mosque:  
at thee only I seek from fane to fane.  
The elect know naught of heresy or orthodoxy.

**Notes and Queries.**

ven minutes too long. The consequence was that in 1582 Pope Gregory XIII found that the current date was ten days behind the real date. He corrected this by dropping ten days and bringing Oct. 4, 1582, followed by Oct. 15. His astronomers found that by leaving out of consideration for three years the hours and minutes in excess of 365 days, they would have nearly an entire day every fourth year, which is put into the calendar as Feb. 29. But they did not have a whole extra day, and the minutes which they added every year made the calendar at the end of four hundred years a little more than a day ahead of the real year, so they settled that by dropping

twenty-ninth day of February once every century. This made the calendar agree very nicely with the sun, but not quite, so the Pope decreed that every fourth hundred years February should have its twenty-ninth day. And now the calendar and the sun are kept so close together that there is a difference of a day only once in nearly four thousand years.

**THE EYE—"Stilton":** The Stockholm Museum possesses an interesting collection of eyes taken from human beings at different ages, which are arranged in such a way as to exhibit plainly the internal and the external eye. It is easy to observe that the eye of a young child is as transparent as a crystal ball, and that the iris is

ent as water; that of the youth a little less in the man of thirty the eye begins to be slightly opaque, in the man of fifty or sixty it is decidedly opaque, and in the man of seventy or eighty it is dull and lustreless. This gradual elopement of opacity is due to the increase of fibrous tissue and deposit of waste matter in the eye.

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isagreeable element. Arsenic, however, is there more nor less, than a constituent element of the tissues of all living beings, vegetable or animal. Without arsenic no life is possible; this conveyor of death is one of the great supporters of life. Such is the apparent paradox affirmed by F. Armand Gautier, as the result of physiological and clinical observations.

WAKES AND SWAMPS.—"D. J.": The conflict abounds in rich agricultural fields and shadow lands that but a few years ago were swamps and expanses of limpid water. How these have been transformed was recently explained by Professor Gregory of Yale. In the course of a

with the students of his class he spoke of way lakes are filled on one side and drained the other by rivers, and called attention to the rapidity with which these lakes are filled by the bringing down of sediment of various kinds. Rivers running into lakes are not full, but those leading away are clear, showing much sediment has been left behind. The Mississippi river carries yearly to the Gulf of Mexico thirteen million tons of matter. It is not but a day's portion of this burden for each one of the many ordinary lakes into which it flows. Some idea of the rapidity with which the

Swiss river have disappeared since 1900. The fact that seventy-three out of 149 lakes in the Swiss region have disappeared since 1900 is due by either being filled up or drained. The draining off results when a river has been cut back so deep that the water all runs out. The Niagara river is doing its best in this respect by cutting as fine a trench as could be made by an engineer. It is cutting back toward Lake Erie at the rate of over four feet a year. If it continues to kill the lake. Unfortunately, however, Lake Erie is destined to be drained through the St. Lawrence. Lake Tahoe, a beautiful lake of the Nevada Mountains, is also one of the

ned in time to be killed as a result of the cleaning process. Peat is one of the fastest growers and works more rapidly than any other type of deposit. It is estimated that one inch of peat in Ireland is peat and over one foot in the State of Indiana was once a peat bog. The speaker called attention to the normal growth of peat in Florida, which was once a peat bog, but is now a great area of bogs and swamps, with only a little lake in one part, so that the growth of this peat in that part and the surface of the lake is fourteen feet higher than the level of the surrounding bogs. The speaker said that it has been literally forced up into the air.

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**Dull**  
Quotations in the market are un-  
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teen or two

Arrivals of fresh fish continue light. The packed lots are in condition on account of frozen stock is not seem to be in market our report Co., says:

The late ruling had a tendency to market has run week. Western

supply, and will  
had to be forced  
cents. Nearby  
dressed and 12  
will realize be  
alive during the  
roasting chick  
18 to 22 cents, t  
only few lots o  
chickens are w  
ers are wanted  
birds dressing

I have heard that the person who found the baby will receive a reward of \$10,000. I am not sure if this is true or not, but I am sure that the person who found the baby is a very brave and kind person. I hope that the baby is safe and healthy.

woman who su  
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machine. All machines are good and cheap hatches if the cheap single-case to produce phenol nicest made and ures. In running other business, the commodity, known as evidence, and good the conditions regional. No man-

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ately dry, well-ve  
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Good ventilation  
importance. In fact,

pure air as we breathe  
can trace much ill  
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they bring me a  
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break them that a  
little eggs, big eg  
with soft spots  
enough to go alone  
No such eggs v



**WALNUT COMPANY,**  
Box 3954, Boston, Mass.



# MASSACHUSETTS PLOUGHMAN

TELEPHONE NO. 3767 MAIN.

At all events the fire spared the famous Pepperell jeans.

Another sign of spring: the powers that be are fixing the summer price of milk.

Boston proper was again more or less evacuated—in the direction of South Boston.

Possibly it was the Princeton tiger itself that chewed off the head of the Princeton lion.

Those who don't curl will be pleased to know that curling is to crokinole as tennis is to ping pong.

The excitement increases! The Shamrock's boom has been fitted to the goose-neck and the raft slung!

Can the cheerful spirits of Whitman resist the temptation to paraphrase "Physician, heal thyself," into "Chief of Police, protect thy own poultry yard."

"Now is the winter of our discontent made glorious summer"; largely, apparently, for the benefit of those who manufacture specialties against the grip.

Well, St. Patrick had his day just the same despite the underhanded efforts of Pastor Moore to prove him a Frenchman; and a Baptist Frenchman, into the bargain.

The Sultan is still failing to keep his promises. Is there no one to encourage him with the old advice, if at first you don't succeed, try, try again?

What will happen to the athletic girl—the "wholesome type" so much in favor with our friends, the publishers—if next summer finds feminine America following the latest expression of Parisian gaiety and conquering masculine admiration by cunning in the art and craft of embroidery.

Born clerks, sailors or schoolmasters are not expected to stay on the farm. Let each follow his own bent. But let us not have the children filled so full of city text-books and city notions that their heads are turned before they are old enough to think. Let them study enough nature and natural science to appreciate their surroundings before it is too late.

Between the lines of the reported theft of some \$800 worth of wedding presents the student of modern tendencies might even suspect that the culprit is a desperate young man with a large circle of acquaintances. June is coming with its attendant train of nuptial ceremonies; and, judiciously distributed, this \$800 worth of presents would meet the polite exigencies of many spring-times.

One leading Boston dealer in farm and country property thinks values are rising in parts of New England where there are special advantages of climate and scenery and which are not too far from the railroad. He says that farms which have been sold more than once in his experience, have often brought a higher price the second sale during the past few years. Near large cities he notes a marked advance of price and scarcity of desirable farms.

That was a first-class meeting at Worcester last week. The one disappointment was the failure to take definite action on the project for co-operative marketing of the fruit crop. Professor Brigham's strong paper warmed up the audience, and the stroke ought to have been made while the iron was hot. The trouble seems to have been that nobody had a plan worked out in detail. The idea is bound to come forward again, but it is too bad that a year may be lost.

Good, ambitious young farmers and their wives are scarce. This is so; else why are hundreds of prime farms that have made good money for past owners, and that are as fertile as ever, waiting in vain at prices, nearly all on credit, as would not begin to replace the buildings? Isn't it about time we stopped educating our children to be dry goods clerks and typewriters? Seems as though we need a few farmers, and people with muscle enough to lift something heavier than a lead pencil, and not afraid to live more than four feet from a brick wall.

These warm spring days the shop hand mentally counts over his savings, and wonders how long before he can venture to invest in a farm. The farmer gets up still earlier as the season advances, works hard all day, and spends his evenings getting his tools and supplies into business shape. Does he think the other fellow enjoys a snap? Not if he ever tried it. He knows the shop hand is cooped and bossed until he loses some of his spirit or loses his job, while every stroke the busy farmer makes is done for his father's good. Isn't it the only man that can put him out of business.

"You have the best soil and climate for quality of orchard fruit," said a speaker at the Worcester fruit growers' meeting, "and with your nearness to markets you can snap your fingers at our Western competition. If you will follow the best methods." This sentiment was endorsed by several experts from farther West, who expressed surprise at the fine quality and appearance of New England fruit, even when grown under careless systems. It is plain, too, that New Englanders do not realize their growing advantages, with a population increasing in numbers and prosperity and no more cheap Western land with which they must compete.

Some of the milkmen's associations in northern Worcester County, Mass., find the State board of health has been lax in one of its duties, and they are starting a movement intended to repay the board for past attentions. It seems that the State law obliges the board to return promptly to the milkman or farmer a formal report on all samples taken for examination. While representatives of the board have been very free in sampling on all occasions, and when least expected, the required report has not been forthcoming, the farmers complain unless the samples fell below legal standard. This condition of things leaves most of the farmers in the dark as to how near their milk product is holding to what they desire. Probably as soon as the officials find the farmers are after them with a sharp stick, this little matter will be attended to as directed by law. Between the mutual zeal of the board and the milkmen, the Bay State dairy law is likely to be well enforced.



BUFFUM PEAR.  
See descriptive article.

## Better Culture for Oats.

Notwithstanding the high estimate commonly held of the oats as a food for horses, and for nearly all other live stock, no other crop, as a rule, is subject to such neglect in care and cultivation.

While nothing responds more readily or derives more benefit from careful and thorough preparation of the soil, proper fertilization, timely and judicious seeding, oats at the same time seem destined to be the one crop of the farm that is supposed to be able to yield satisfactory returns under the most adverse circumstances that sometimes occur when nature does occasionally lend a hand and assists over the hard places occasioned by the neglect and indifference of the farmer.

Ground occupied by corn, beans, potatoes or other hoed crops seems most suitable for growing oats. Plowing should begin as soon as the condition of the soil will admit, for much depends on early seeding for a favorable outcome of this crop. The roller should follow each day's plowing, and no harm results if the harrow follows immediately after; for the oat crop especially needs that every precaution should be taken to save the moisture already stored just beneath the surface to assist over the prolonged periods of drought liable to occur.

To add in this work the soil should be reduced to a fine tilth, and the improved tools now available leave no excuse for careless, slipshod work in this direction. The amount of seed required per acre varies with different farmers from two to three bushels. Two bushels of well-cleaned seed that has not had its germinating qualities injured during its curing process and sown with drill I have for many years considered amply sufficient.

The benefit to be derived from rolling the ground after the drill is a matter of adverse criticism by many, but all admit the improved condition of the ground for the future working of the self-binding harvester.

## The Bostonian Society.

The proceedings of the twenty-second annual meeting of the Bostonian Society have been printed in a neat pamphlet, having for a frontispiece the colored engraving by Paul Revere representing the Boston massacre in front of the Old State House, on March 5, 1770. The publication contains the address of president Curtis Guild, Sr., which is full of interesting reminiscence matter concerning old Boston. Much of it is the result of personal recollection, for no one is better informed regarding our city, sixty years since, than Mr. Guild, who has so worthily presided over the Bostonian Society since its foundation.

Besides the various reports, the necrology and the lists of membership, the brochure contains the paper on "The Life and Activities of the Hon. John Read of Boston," read at the meeting of the society on Nov. 11, 1902, by George R. Reed. The subject of this memoir was a distinguished lawyer and citizen of Boston in provincial days, 1722-1749, though he was a minister in Connecticut, his native State, before he devoted himself to legal pursuits. President John Adams said that Mr. Read "had as great a genius and became as eminent as any man," a bit of eulogy that seems little too vague and comprehensive; but Governor Washburne is more definite when he tells us that Mr. Read did, perhaps, more than any one man in introducing the courts and order into the practice of the courts of Massachusetts.

The meeting of the Bostonian Society this year was held in the Blue Room, Tremont Temple, owing to the alterations in the basement of the Old State House ordered by the Boston Transit Commission.

## A Good Cooking Pear.

One of the most distinct varieties among autumn pears is the Buffum. The habit of growth is so upright that the branches seem to point almost straight over head. For this reason the Buffum takes less room in the orchard than most other kinds, and will bear close planting. In appearance the fruit somewhat resembles the Sheldon, medium size, russet, with a red tinge. It bears nearly every year and is productive. Growth of the tree is vigorous. It is not easily grafted to other kinds on account of its coarse wood and erect habit of growth. The flavor of the fruit is sweet, but juicy is lacking, and the variety is of no use as an eating pear. For canning and cooking it is good, but the market for this grade of fruit is limited, and large plantings are not to be advised. Like some other pears of poor flavor, its wood and foliage seem almost proof against blight.

## Massachusetts at St. Louis.

It seems to us that there should be little discussion about appropriating \$100,000 for the purpose of having Massachusetts fittingly represented at the St. Louis Exposition. Indeed, the sum named seems to be hardly adequate for the purpose for which it is designed, and much more money could be judiciously expended in giving our State an honored place among her sister States as an exhibitor.

were abandoned because young men followed Horace Greeley's advice and went West to what were thought more fertile regions, but these farms are being reconquered now, and agricultural Massachusetts may hope to come to her own again and see the old homestead once more loved and respected in the land.

If all signs do not fail, the St. Louis World's Fair will exceed in importance the great exposition held in Chicago, and therefore the old Bay State cannot afford to remain in the rear of the procession through narrow, economical ideas. If a thing is worth doing at all, it is worth doing well, and Massachusetts should sustain her dignity at St. Louis through a liberal appropriation.

**Farm Notes from Northern Vermont.**  
At date of writing, March 14, the snow is nearly all gone and the frost is pretty much out of the ground. Since the last thaw, a week or more ago, the weather has been warm and springlike. It has frozen but little at night, not sufficient to start the sap running to any extent.

Most sugar orchards have been tapped, but very little sugar has been made as yet, owing to insufficient freezing. Such weather is unseasonable and we may expect a setback at any time. As the manufacture of maple sugar and syrup is a specialty on a good many farms in the State, there is naturally some anxiety as to the result. Of course there is time enough yet for an average season, for often nearly all of the product is made during the month of April.

This has been a winter remarkable for the number of thaws that have occurred. From these frequent changes from thaws to freezing, a large amount of ice formed on the meadows, and some fears have been expressed as to the results on the safety of the grass crop, but as the snow and ice have disappeared, the mowings appear to have passed the ordeal very well indeed. With favorable weather now on, there should be another good crop of hay. In my own county, Franklin, we have not had a short crop of hay for a long time, and this may be fairly considered a hay-producing portion of the State.

Some complaint is heard that stock, particularly cattle, have not wintered as well as usual, and it is evident that this is due, in a large measure, to the poor quality of the hay, resulting from so much rainy weather, both during the growth of the crop and the harvesting. This has doubtless depreciated the quality of the crop a quarter or more, and this means a good deal in the aggregate. A large amount is eaten, but more grain than usual is required to keep the animals in fair condition or to keep up a desirable flow of milk.

As the spring dairies are now fast coming into milk, the creameries and separator stations, of which we have many in this part of the State, are commencing operations, and in a few weeks will be doing a large business. Creamery methods are changing to quite an extent, and farm separators are being used more and more each year, the cream only being gathered up and transported to some central point to be made into butter. This is doing away with some of the separator stations, and where the business is fairly conducted, is well liked by the patrons.

A respectable portion of farmers still adhere to the practice of making butter at home, and where the conditions are favorable are meeting with good success. Otherwise they would much better patronize the creameries.

The scarcity of help, both male and female, on the farm, has been a great factor in the introduction of creameries among us, and may have more to do with it in the future, if these conditions continue. Comparatively few farmers, after patronizing a good creamery for a few years, go back again to the manufacture of butter at home.

Prices for dairy products have been pretty well sustained during the winter months, and it is to be hoped they will through the season, as compared with former years. Some have not sold at as high prices during the winter as they naturally would, on account of the quarantine placed on their shipment out of the State. It is to be hoped that the foot and mouth disease, which has received such vigorous treatment at the hands of the proper authorities, will be effectually exterminated from the New England States herds before the cattle are again turned to pasture. E. R. TOWLE, Franklin County, Vt.

## Something About the King's Chapel and Copp's Hill Burying Grounds.

BY BENJAMIN F. STEVENS.  
These two ancient burial places, the first dating from the settlement of Boston in 1630, the latter from about 1690, are as quiet almost as country church yards. The King's Chapel burial ground, on the corner of School and Tremont streets, is directly among the busy haunts of men; trade of almost every description flourishes about it, and hardly a passer-by on his hurried way bestows a description of those who are sleeping quietly within a few feet of the walk upon which he treads; sleepers who in their day and generation were men of mark, and wide-awake to the exigencies of the times in which they lived and in which they bore so important a part. It is a place of which Job may well have said: "There the wicked cease from troubling; and there the prudent be at rest" in the grave where kings, princes and infants lie. As a learned commentator

on the most sublime poem ever written says: "This oft-quoted verse was used by Job to express the condition of the dead. They who are there are free from the vexations and annoyances to which men are exposed in this life. All is peaceful and calm in the grave, and there is a place where the malicious designs of wicked men cannot reach us. Job is describing, in general, the happy condition of the dead, and it should be a matter of gratitude that there is one place where the wicked cannot annoy the good; and where the persecuted, the oppressed and the slandered may lie down in peace; where those who are worn down by the tolls and cares of life and who feel the need of rest may obtain repose. Never was more beautiful language employed than occurs in this verse. It throws a charm even over the grave-like strewing flowers and planting roses around the tomb. Who is there that is not at some time weary with his load of care, anxiety and trouble? Who is there whose strength does not become exhausted, and to whom rest is not grateful and refreshing? Oh! grave! thou art a peaceful spot! Thy rest is calm; thy slumbers are sweet.

"Nor pain, nor grief, nor anxious fear invade thy bounds. No mortal woes can reach the peaceful sleeper here. While angels watch the soft repose."

"What a beautiful idea it is, too, that of calling these little cities of the dead 'God's Acres!' How suggestive, how appropriate the name—a place in which His children can lie down within the limits of His green fields, and sleep the 'sleep that knows no waking!'"

Leaving the commentators to their quiet repose, let us walk together to the old chapel grounds, which our fathers selected for a place of burial 260 years ago. It is hardly probable that Isaac Johnson, husband of the Lady Arbella, who died shortly after coming over from England, was buried here, although it is frequently so stated, but that his remains were taken to Boston, in Lincolnshire, England, where he was born. The first burial in these grounds, as is supposed, is alluded to in Winthrop's diary, Feb. 18, 1630: "Captain Welden, a hopeful young gent and an experienced soldier, dyed at Charlestowne of a consumption and was buried at Boston w'a military funeral." It is also stated, on good authority, that he "was buried as a soldier, with three volleys of shot"—the extra probably adding loudly to the report. In 1642 it was ordered "that the constables shall, with all convenient speed, take care for fencing in the burying ground"; and Shurtliff says, in his very interesting "Description of Boston," that the town fathers of the town were so prudent in their affairs that they undoubtedly received an income from the land other than that from burials, for in 1657 it was let to Captain Savage for a period of twenty years, he promising to preserve the fence. What he did with the grounds is not stated in any record that has come under the observation of the writer, although it appears somewhat singular that a man should lease a burial ground for no other purpose than to keep the fence in repair. Our authority goes on to say that "the old fathers" broke this lease in 1660, but omits to mention what Captain Savage got for damages.

This Capt. Thomas Savage was a major in the "King Philip" war, and commanded the Ancient and Honorable Artillery Company. Afterwards, five of his direct descendants were commanders of the same company. Also, he was trustee under the will of Madame Norton, through whom the Old South Church got considerable property. Captain Savage's first wife was Faith Hutchinson, daughter of that Anne Hutchinson who was banished from Massachusetts for heresy, and was killed in Connecticut by the Indians. Anne Hutchinson had fifteen children; after her banishment she bought the island Aquidneck from the Narragansett Indians for forty fathoms of wampum; she also founded the city of Portsmouth, N. H. Winthrop, in his diary, alludes to her as having brought from England "two dangerous errors; the first, that the Holy Ghost dwells in a justified person; second, that no sanctification can help to evidence to us our justification"—rather a tough sentence, it seems to the writer, to get over. Captain Savage was gathered to his father in 1680.

"To a stranger who visits this old habitation of the dead, beside the most frequented streets in the city, the feelings of reverence are at once awakened, and the strange looking old stones, with their quaint inscriptions, idealize the past, as, winding along these hallowed relics, one reads the brief history of a spent life in the simple name and age of the lone tenant beneath each of them, cut with the sculptor's chisel in the cold, gray stone."

One of the most noted objects in this "city of the dead" is a white marble monument, erected to the memory of Col. Thomas Dawer, a venerable and useful citizen, who died at seventy-eight, in 1809. Not far away is the tomb of the Boston branch of the Pilgrim family of Winslow, and here lies buried the once beautiful Mary Chilton, who was the first woman who landed on Cape Cod from a boat from the Mayflower. She died in 1679. Her famous jump has been commemorated in the calendar for 1889 issued by the New England Mutual Life Insurance Company of Boston. Then there is the tomb of Thomas Brattle, a wealthy merchant, who died in 1683, whose son, Thomas, was

the principal founder of the church—once called "Brattle Street"—and treasurer of Harvard College. Then come the tombs of the Leveretts and Bromfields, in the first of which lie the bones of the old Governor. Then there is the tomb of Dr. Benjamin Church, noted for his queer actions in the days of the Revolution.

Dr. Church was an eminent physician and a friend of Samuel Adams, and was held in high esteem by the patriot leaders, but was secretly a waverer. It appears by a letter written by Governor Hutchinson in 1773, that Church was using his pen anonymously against the Colonies and in favor of the British government. This, however, was not known to the patriot leaders, and he was chosen to deliver the oration in the Old South meeting house on March 5, 1775. Also he was one of the leaders of the Boston Tea Party, and was made, by the Provincial Congress, surgeon-general, etc. He came to grief in November, 1775, when some cipher letters of his were intercepted and interpreted by Elbridge Gerry, afterward Vice-President of the United States, and it was found that he had been for some time in treasonable correspondence with the enemy. He was found guilty of treason and sentenced to imprisonment for life. Falling sick in prison, his sentence was mitigated and he was allowed to leave the country. He perished at sea on a voyage to the West Indies. But his tomb remains to mark the spot where he would have lain had he been a true patriot.

In a vault belonging to the Phillips family were deposited in 1888 the remains of Lady Andross, wife of that God-forsaken villain Sir Edmund Andross, who set up a claim to be Governor of Massachusetts Colony. Here lie, too, the remains of Gov. John Winthrop, his son and grandson, who were governors of Connecticut; Governor Shirley, John Davenport, the founder of New Haven, Ct.; and many others of more or less prominence in the early history of our country.

Copp's Hill was one of the three hills upon which Boston was said to have been set; it was originally called "Windmill Hill"; then "Snow Hill," and finally "Copp's Hill," from a shoemaker named William Copp, who lived in the near vicinity, and it has borne that name ever since, and probably will till the day of doom. His family tomb, containing the bones of those who came after him, is in this quiet ground. At the battle of Bunker Hill, June 17, 1775, the British had a battery of six guns on Copp's Hill, and the British soldiers, it is said, used to make targets of the gravestones, many of which now bear the marks of bullets. The Ancient and Honorable Artillery Company, of famous memory, once claimed the ownership of part of the hill and paraded and drilled there once in the Revolution. After the British soldiers left Boston, the company made claim to it again (so says our old historian) by right of an old mortgage, which had run out without redemption of the land; but this was subsequently discharged.

There lie buried in this beautiful old graveyard the remains of those celebrated men of early days—the Mathers—Dr. Increase, Samuel and Cotton, Edmund Hart, the builder of the frigate Constitution, or "Old Ironsides"; the father and grandfather of Governor Hutchinson; Mrs. Mary Baker, a sister of the famous Paul Revere; Chief Justice Parker, and the Rev. Jesse Lee, the early preacher of Methodism in Boston, and of the Rev. Andrew Elliot, pastor of the New North Church, who was elected president of Harvard College, but declined to serve on account of his attachment to his flock. He used to keep a memorandum in an almanac every day of the year in which he received presents; thus in one day in January, 1748, "Gloves" are put down; then again "Rings." At the bottom of the record the good man states how many pairs were kid, how many were lambs' wool, and how many were long or women's gloves, intended, of course, for the parson's wife. He had an occasional note of these things, with the exception of those he distributed in his own family, not a small one, by the way, for he left eleven children. From a memento left on the fly leaf of an almanac it is ascertained that "it was a pleasant day, Sept. 15, 1778, when near four hundred couples and thirty-two carriages followed the remains of Dr. Andrew Elliot from his house upon the south side of his meeting house in Fore street, up Cross street, through Black Horse lane to Copp's Hill." How different the funeral of this godly man from "The Alderman's Funeral," so beautifully told by Southey, and which we used to read at school in our boyish days!

Do pray insist upon the younger readers of the BUDGET, at least, the necessity of visiting this old landmark, this beautiful burial place of our forefathers, that the memory of these old patriots may be kept green. And let some "Old Mortality," like unto him of Scott's creation, continue to touch up the old headstones, that future generations may reverently bow the head and bend the knee as they pass by, bearing in mind those beautiful words of Sprague:

"When Israel's race from bondage led,  
Signs from on high the wanderers fed;  
But here—Heaven hung no symbol here;  
They steps to guide, their souls to cheer;  
They saw, through sorrow's lengthening night,  
Nought but the fagot's guilty light.  
The cloud they gazed at was the smoke  
That round their murdered brethren broke.  
Nor power above, nor power below,  
Sustained them in their hour of woe.  
A fearful path they trod,  
And dared a fearful doom.  
To build an altar to their God  
And find a quiet tomb."

There was a time when the Southerners and the Northerners were as belligerent as the English and French in Nelson's time, and it would have been extremely dangerous for you and me to go so far from the business centre as this quiet old resting place. Now boys can usually walk the streets in peace without having bricks thrown at them. Our stroll is ended for today.

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## Our Homes.

## The Workbox.

**ICE WOOL SHAWL.**  
Procure 6 skeins of ice wool. A large bone hook. Use the single crochet stitch, picking up the back loop and the one directly under that, and work very loosely. Begin with a chain of 4, join round. Make 3 single crochets in each of the 4 chain (12 stitches); this forms the 4 corners of the square.

Make 2 stitches plain, and widen 3 in the middle stitch of the 3 in the former row, 2 stitches, widen 3, etc. Continue in this way, always widening 3 in the middle stitch of each corner for about 40 rows.

To work the border—Chain 2 (\*), thread over 5 times (put it over the needle and one finger), pull your needle through and make a loop and fasten into third stitch on the square. Chain 2 and repeat from (\*). Continue all around square, making 2 rings into each corner. Chain 3 and catch the loops or rings with a short stitch, chain 3 to the next ring, and so on to the end of the row.

Chain 5 and fasten into the middle of the 3 chain in former row, chain 5 and fasten into next 3, and so on. Do this for 4 rows. Repeat row of rings. Then make 3 more rows of loops of 5 chain each, as above.

## THE LACE EDGE.

Make 1 ring into the centre of first 5 chain (\*), chain 2, shell of 4 treble into centre of next 5 chain, 2 chain and 1 ring into the centre of the next 5 chain, and repeat from (\*). Make 6 or 7 rows as above, and finish with 5 chain, 1 shell of 6 treble, 5 chain, and fasten into ring, 5 chain, shell of 6 treble, 5 chain, and so on around the shawl.

EVA M. NILES.

## Training Children.

I had the privilege of being present at one lecture on the training of children, and among all the good things which I heard on the occasion I will quote the following, which may be of great use:

1. Never threaten children with punishments you may not be able or inclined to carry out. Don't let your "yes" mean "no" nor your "no" mean "yes." You must never be fickle or wavering in your dealing with them, but always firm, just and reliable, though kind and indulgent. Don't punish them and then regret it and afterward fondle them, as if to ask for their pardon. If you do, you will run the risk of having your child say to you: "Ah, you see, mamma, you are sorry for what you have done. Instead of scolding me, I think you ought to thank God for giving me to you!"

2. Don't make mountains of molehills or be constantly down upon children for little breaches of every-day discipline; don't be fidgety and fussy. Never offer them a piece of candy, a bun or an orange as a reward for virtues, or as a bribe to cease being naughty.

Then came a few pieces of advice of a higher order, and which I thought were sound in their philosophy. Among these I will quote the following:

1. Do not expect your children to become a joy to you in your old age if you have failed to be a joy to them in their early life and training. Do not expect them to support you when you are old. You had a fair start of them in life and they should be able to provide for themselves. They will very likely have families of their own. Children are often sadly thrown back through having to look after parents, who had been taken time by the forelock, would have been able to look after themselves and have given their children a nudge onward into the bargain. For that matter, never have to be a burden to your children, except for the happiness they may procure you by their affection and the successes which they meet with in life, thanks to the education, money, advice and what not which you may have given to them.

2. Don't let your vanity cheat you into the belief that your children are wonders and exceptional phenomena, and that nature's ordinary rules are not applicable to them.

In the nurse's lecture on baby culture, I retained to me three pieces of advice which seemed to me remarkably good, although my ignorance would not have enabled me to give them. Young mothers, please listen:

1. Don't squeeze your baby's head.  
2. Never allow your child to go to bed in a bad temper.  
3. Never encourage it to gaze into the fire, and never tell it ghost stories, at night especially.

4. Do not startle a rocking horse before the age of five.  
5. Never startle a child by sudden shrieks or any other noises.

6. In fact, quiet and diet will be the making of a child strong in mind and body.

I could fill a whole page with all the good things I heard on the occasion of my visit to that useful school.

Maybe, one day school will be started in other countries. I recommend this to the women's rights of the United States.—Exchange.

## Bavarian Creams.

Bavarian creams are wholesome, easily made and most easily varied. The proportions usually remain the same; that is, half a box of gelatine will solidify one quart of liquid, this being all cream, or part cream and part milk, or part cream and part fruit juice. The amount of sugar depends upon the other materials used, as the sugar will be less for a peach Bavarian cream than for one made of coffee. The method of putting together is simple and easy. The gelatine should be covered with cold water, in the same proportion; that is, for half a box of gelatine take one-half cup of cold water; for one fourth of a box of gelatine use one-fourth of a cup of cold water, and so on. Either one-fourth or one-half of a box of gelatine should soak in this cold water for a half-hour; a whole box of gelatine covered with a cup of cold water should stand an hour, and it cannot be hurried by heat. Gelatine put in hot water will make good glue, but will not dissolve unless covered with cold water. It should be dissolved over hot water, after it has stood a sufficiently long time to absorb the cold water

and become soluble. If fresh fruits are used, they must be stewed and sweetened (if canned or preserved, all that is needed is to press them through a sieve. Whip the cream, adding a pinch of salt. Add the mixture to the fruit which has been pressed through the sieve, and put where it begins to thicken, add the whipped cream. Stir from the bottom toward the top, until when a spoonful is turned on top it comes what keeps its shape. This shows that the cream is sufficiently solid to keep together, and not separate into fruit juice and cream, moulded in layers. When a part of the cream is whipped and a part used without whipping, the latter should be re-added and the sugar added to that. It is possible to make delicious creams with part milk and eggs and part cream, solidified with the gelatine. Any one with ingenuity should be able to vary these to suit themselves and the exigencies of the larder. In this way, small amounts of fruit, jelly, etc., may be utilized.—New York Tribune.

## Congenital Dislocation of the Hip.

No one knows why a child should be born with the hip out of joint; yet, as has been strikingly shown during the recent visit to this country of Dr. Lorenz, the Vienna specialist, in the treatment of that deformity, a great many are so born. One might suppose that it was the result of an accident to the tender frame of the infant, but that this cannot be the reason is shown by the curious fact that of every hundred children afflicted, between eighty and ninety are girls. It seems to run in families sometimes, or it may be hereditary, and mother and daughter both be lame by it. One hip only may be dislocated, or, less commonly, both are out of joint.

The hip is what is called a ball-and-socket joint, the round head of the thigh-bone fitting in a socket hollowed out of the hip-bone, and still further deepened by a rim of cartilage. This arrangement gives a very strong joint, yet one that is capable of motion in every direction. There are also several strong fibrous ligaments that encase the joint, which prevent extremes of movement and reduce the liability of dislocation from ordinary injuries.

In cases of congenital dislocation the head of the thigh-bone lies outside of the socket, usually in the flaring part of the hip-bone, while the socket itself is shallower than normal, and is partially filled up with a soft bony material.

A congenital dislocation of one or both hips is seldom detected until the child begins to walk. Then it is seen that the child has a sort of a lurching limp if one hip is out of joint, or a peculiar duck-like waddle if both joints are affected. An observant mother or nurse may have noticed that the baby's hips were too broad, or that there was a prominence above the usual place, but as there is no pain no matter how it is thought of.

The method of treatment pursued by Dr. Lorenz and by many American surgeons is to pull the thigh into place so that the head of it will rest in the shallow socket, and then to make very firm pressure while twisting the leg in the effort to bore out the cavity. The limb is then fixed, with the joint in place, by a plaster-of-Paris splint, and the child is encouraged to go about so that the weight of the body will press the head of the bone farther into its socket.

When the child is young and the bones are not so misshapen as to defy all attempts at reposition, this method of treatment is quite successful; yet it is not infrequently fails, and in children over five or six years of age it seldom wholly succeeds. The only hope then is in a more serious operation.—Youth's Companion.

## The Decay of Home Life in England.

Apart altogether from the individual dignity and self-poise which are invariably lacking to the "vagrant," or home-despising human being, the decay of home life in England is a serious menace to the empire's future strength. If our coming race of men have been accustomed to see their mothers indulging in a kind of high-class public-house feasting, combined with public-house morals, and have learned from them an absolute indifference to home and home times, they in turn will do likewise and live as "vagrants"—here, there and everywhere, rather than as well-established, self-respecting citizens and patriots, proud of their country, and proud of the right to defend their homes. Even as it is, there are not wanting signs of a general "wandering" tendency, combined with morbid apathy and sickly inertia. "One party is as good as another," says one section of society, and "anything is better than the English climate," says another, preparing to pack off to Egypt or the Riviera at the first snap of winter. These opinions are an exact reversion of those expressed by our sturdy, patriotic forefathers who made the glory of Great Britain. "There is no place like England" was their sworn conviction, and no place like home was the essence of the national sentiment. The English climate, too, was quite good enough for them, and they made the best of it. When will the "Smart Set" grasp the fact that the much-abused weather, whatever it may be, is pretty much the same all over Europe. The Riviera is no warmer than the Cornish coast, but certifies it is better provided with hotels, and—chiefest attraction of all—it has a Gambling Hell. The light of Monte Carlo is as good as the far apart as the poles; and those who seek the one cannot be expected to appreciate the other. But such English women as are met at the foreign gambling tables, season after season, may be looked upon as the deliberate destroyers of all that is best and strongest in our national life, in the sanctity of home, and the beauty of home affections. The English home used to be a model to the world—with a few more scandalous divorce cases in high life, it will become a byword for the mockery of nations.

The charm of home depends, of course, entirely on the upbringing and character of the inmates. Stupid and illiterate people make a dull fireside. Morbid faddists, always talking and thinking about themselves, put the fire out altogether. If I were asked my opinion as to the chief talent for making a happy home, I would without a moment's hesitation reply "Cheerfulness." A cheerful spirit, always looking on the bright side and determined to make the best of everything, is the choicest blessing and the brightest charm of home. People with a turn for grumbling should certainly live in hotels and dine at restaurants. They will never understand how to make, or to keep, a home as it should be. But given a cheerful, equable and attractive temperament there is nothing sweeter, happier or safer for the human being than home, and the life which centres within it, and the duties concerning it which demand our attention and care. There is no need for women to wander far afield for an outlet to their energies. Their work waits for them at their own doors, in the town or village

where they reside. No end of useful, kind and neighborly things are to hand for their doing—every day can be filled, like a basket of flowers, full of good deeds and gentle words by every woman, poor or rich, who has either cottage or mansion, which she can truly call "home." Home is a simple background against which the star of womanhood shines brightest and best.

Women complain that home is "dull," "quiet," "monotonous," "lonely," and blame it for all sorts of evils which exist only in themselves. If a woman cannot be a few hours alone without finding her home "dull," her mind must be on the verge of lunacy. The sense of being unable to endure one's own company augurs ill for the moral equilibrium. To preserve good health and sound nerves, women should always make it a rule to be quite alone at least for a couple of hours in the course of day. Let them take time to think, to read, to rest, and mentally review their own thoughts, words and actions in the light of a quiet conscience time of pause and meditation. Home is the best place to rest and meditate—and the hours that are spent in thinking how to make that home happier will never be wasted. It should be very seriously borne in mind that it is only in the home life that marriage can be proved successful or the reverse, and to quote Mr. Locky:

"moral basis of sterling qualities is of capital importance. A true, honest and trustworthy nature, capable of self-sacrifice and self-restraint, should rank in the first line, and after that, a kindly, equable and contented temper, a power of sympathy, a habit of looking at the better and brighter side of men and things. Of intellectual qualities, judgment, tact and order, are perhaps the most valuable. . . . Grace and dignity of manner will retain their full attraction to the last. They brighten in innumerable ways the little things of each life; and life is mainly made up of little things, exposed to petty frictions, and requiring small decisions and small sacrifices. Wide interests and large appreciations are in the marriage relation more important than any great constructive or creative talent, and the power to soothe, to sympathize, to counsel and to endure than the highest qualities of the hero or the saint. It is by this alone that the married life can be a full perfection."

And when we hear, as we so often do, of the complete failure and deplorable disaster attending many marriages, let us look for the root of the evil at its foundation, namely, the decay of home life, the neglect and avoidance of home and home duties, the indifference to or scorn of home influence. For, whenever any woman, rich or poor, high in rank or of humble estate, throws these aside, and turns her back on home, her own natural, beautiful and threefold blessing is lost. She performs what would be called the crazed act of a queen who, called to highest sovereignty, casts away her crown, breaks her scepter, tramples on her royal robes and steps from her throne, down—down into the dust of a saddened world's contempt.—The Lady's Realm.

## Quick Lunches in London.

Some comment has been caused by the announcement that an American system of "quick lunches" is to be inaugurated in London. Is there, however, really anything new in this? What is popularly called a "snack" is surely only the quick lunch figuring under another name. At many bars, publicans' and railway bars alike, there is laid out a selection of small odd dishes, of which the hungry and hurried mortal is invited to partake. The man with only a few minutes to spare for lunch has long enjoyed the opportunity of ruining his digestion—a result which, according to medical opinion, may be expected to accrue from this method of carrying on the bodily commissariat. Nobody doubts that food should be consumed at leisure, and a rest before food, as a physician has remarked, is just as important as a rest after meals. There seems to me one saving clause in the quick lunch as represented in our midst. The man who takes his mid-day snack does not eat much as a rule. His fare is usually small in quantity. It does not tend to overtax his digestive powers, and therefore the quick lunch, as it is called, is really a good thing, and I would prefer to risk my digestion over a hurried snack rather than over many an ordered and elaborate dinner.

Today we do most things in a hurry, and the exigencies of business will not permit many men to dally with their fare. They must consume something between breakfast and dinner, and I fall to see wherein lies the justice of the condemnation of the snack. If the quick-lunch movement should proceed with a greater variety of spirit, and especially if a licensed caterer were to become a restaurateur on a small scale, the cause of health and temperance may thereby be aided.

I am reminded by this topic of the remarks made by the late Sir W. Roberts, M. D., in a highly interesting little work of his on digestion. The hurrying through of his digestion is a point at issue much more important than the mere question of carrying on the bodily commissariat. Sir W. Roberts was of opinion that owing to the elaboration of our cooking, we take our food in a state in which too rapid assimilation became possible. For this reason, it was argued, we failed to make the most of our nutriment. This notion led Sir W. Roberts to speculate in certain agents which had the power of retarding the digestive work. In his book he gives an account of my experiments carried out with a diet varied of spirits and the like. Most of these things show the processes through which our food is prepared for absorption into the blood; therefore they were to be regarded as not undesirable addenda to a meal. Perhaps mankind has unconsciously, as the result of experience, evolved the use of fluids, alcohol and otherwise, at feeding times. People have sometimes suggested that the post-prandial cup of coffee is taken with the view of inducing a state of satiety—to put the matter mildly. No doubt it may tend to counteract the effect of potations, but its justification may rest physiologically rather on the idea that it acts as a break on the digestive machine, and promotes the better utilization of the food we eat.—Dr. Andrew Wilson, in London Chronicle.

## Domestic Hints.

**CREAMED OYSTERS.**  
Creamed oysters are easily prepared. Cook two dozen oysters in a tablespoonful of lemon juice until they plump. Drain off the liquor and turn them into a bowl, and, if possible, keep them hot. Cook together a tablespoonful of butter and two tablespoonfuls of flour with a little milk for four minutes without browning. Add a cupful of milk and cook until it thickens, stirring constantly until it is smooth. Turn in a cupful of cream. Season with salt and pepper and heat thoroughly, but do not boil. Add an egg and serve at once. All milk in place of part cream may be used.

## COOK OYSTERS.

Corn oysters are appetizing for either breakfast or luncheon, or may be served as an entree at

dinner. Grate enough fresh corn to nearly fill a pint measure. If canned corn is used, press it through a fine colander or sieve. Add the yolk of an egg, beaten light, and salt and pepper to taste. Have ready a very hot butter and just before frying add to the corn mixture the beaten white of the egg, and if the mixture seems dry, a little sweet milk. Drop in small spoonfuls in the hot butter and fry a golden brown.

## VEAL BALLS.

Veal balls are excellent for luncheon or supper. Mince fine some cold veal, add a few breadcrumbs, an egg and pepper and salt. Mould into balls and fry in butter. When browned remove from the pan and arrange neatly on a hot platter. Make a rich cream gravy of milk, flour and butter and pour over the balls, serving with parsley.

## WATERCRESS SALAD.

Watercress is only good when which does not require oil in dressing it. Procure three bunches. Look them over carefully. There is very little brought to market which is entirely free from snails and other water insects, which gather in it the drier the weather it grows. Use it carefully, hand-picked by hand. Pare off the heavier stalks. When it is finally clean dry it in a cloth. Lay it on the ice to become chilled, and then transfer it to a chilled salad bowl. Three bunches of properly cleaned watercress require about a large saladspoonful of vinegar, a tablespoonful of salt and a little pepper, but no oil. It is an especially valuable breakfast salad to serve with beefsteak, fried fish or veal cutlets. It is also excellent with croquettes of fish or meat.

## BOGS WITH MUSHROOMS.

A delicious way to cook fresh eggs for the table in the spring is with mushrooms. These are all ways in market from the greenhouse if not from the field. A quarter of a pound of mushrooms is enough to serve with twelve eggs. After peeling and trimming the mushrooms melt a tablespoonful of butter in a saucepan. Add a teaspoonful of salt and a saltspoonful of white pepper. Then add the mushrooms, properly cleaned and trimmed, squeezing in two drops of lemon juice. Cover the saucepan and let the mushrooms cook for ten minutes over a slow fire. Add a tablespoonful of wine and slimmer the mushrooms for about three minutes longer, or until the liquid has been reduced one-half. Now add three tablespoonfuls of cream and let the mushrooms boil up again. Dish the mushrooms in the centre of a hot platter, and surround the liquid around them. Lay twelve poached eggs in a circle around the mushrooms. Pour the liquid of the mushrooms over them and around the eggs. This dish is nice without wine, simply serve with three tablespoonfuls of cream added to the mushrooms.

## ANCHOVY CAKES.

Cut several small crusts in halves, scoop out the crumb, and place the crusts to dry at the back of the stove. Meanwhile chop sufficient hard-boiled eggs to fill the canapes, together with a little tarragon and chervil, and prepare some fillets of anchovy. Put the chopped eggs and herbs into a bowl, add a little oil, tarragon vinegar, salt and nutmeg, and mix together. Fill the prepared crusts with the mixture and garnish with the anchovy fillets.—What to Eat.

## Hints to Housekeepers.

Clean decanters and other glass bottles with fine pebbles instead of shot, which leaves behind it a portion of oxide of lead.

The best way to clean a wash silk waist is to wash it in a soda wash of benzine or gasoline and a white soap. After the garment is clean it should be thoroughly rinsed in fresh benzine. No pressing will be needed as a result of the washing, but if the silk is wrinkled it should be ironed with a warm flat iron. A hot flat iron must not, of course, be put on goods wet with such fluid. The rinsing liquid may be saved for another occasion, providing it is allowed to settle, and is then drained from the sediment. Deep decanters may be cleaned in this way.

Nothing is better to keep two-year-old children in health than stewed fresh fruit every day. Peaches, apricots, and apples are the best fresh fruits for stewing, and prunes among the dried fruits. There is such an abundance of cereals in the market that the two-year-old can have a different one every morning, with cream. Soft-boiled eggs and mutton and chicken broths are standard diets for young people of this age.

One of the best sauces for fish is made by chopping a tablespoonful of capers very fine and combining them with a little lemon juice and a wooden spoon. Mix this with an ounce of cold butter and season with salt and pepper.

Oyster cocktails in tomatoes make a pretty first course for a luncheon or dinner. Select small tomatoes, scoop out the contents, chill, then fill with an oyster cocktail and serve.

California prunes are slowly drying on the imported varieties. California now has over five thousand acres of prune trees, and Idaho, Oregon and Washington have about fifty thousand each, all told.

Keep a flour barrel elevated at least two inches from the floor on a rack to allow a current of air to pass under it and prevent dampness collecting at the bottom. Do not allow any groceries or provisions with a strong odor near the flour barrel. Nothing absorbs odors more certainly than flour. The barrels are becoming fashionable again, not only in the garden and conservatory, but in jewels and in decorations where flower forms appear. It lends itself well to personal adornment. The flower itself cannot very well be worn, as it is a little too bulky, but a separate garment is beautiful in table and room decoration, and is so easily grown that it should be cheap.

A remedy for creaking shoe soles is to allow the soles to stand over night in a pan containing a small quantity of olive oil, so that they will be saturated with it. This will protect them from dampness, and if the soles are carefully wiped off they will not grease carpets or rugs. This treatment is especially intended for walking shoes.

Powdered borax is a harmless and exceedingly useful article to keep in the house. A tablespoonful added to hard water successfully softens it. It is an agreeable addition to the dishwasher, and helps to keep the hands soft instead of irritating them as soda does.

The leftover of cold ham may be utilized in breakfast. Crush three boiled potatoes through a sieve. Moisten with sweet cream, add a quarter of a cupful of grated or finely minced ham, a little chopped parsley and pepper and salt. Beat the yolk of two eggs. Form into small balls, fry until light brown in color, and serve plain or with brown gravy.

Cheese balls may appear with toasted crackers carried out as the piece de resistance at the informal supper. To one cupful of dry grated cheese add three drops of Worcestershire sauce, the whites of two eggs well beaten, and a pinch of salt. Mould into soft balls, roll in bread-crumbs, and fry in a deep fat, or dip them into hot lard and fry until golden brown.

Brussels sprouts should be allowed to soak in cold water for an hour before cooking them. Put over the fire in boiling water with a little salt and cook until tender. Drain off the water and put in a piece of butter in the saucepan, stir until it melts, and add pepper and a little gravy, if any is at hand. Serve with this sauce: Brown a tablespoonful of butter in a saucepan and thin it with a little milk. Add a little salt and pepper. At the moment of serving thicken with a dessertspoonful of flour and one of butter mixed. There should be a cupful of the sauce.

## Fashion Notes.

Cameo brooches and lace pins are among the revived styles in jewelry. These are made in different sizes and finished with rims of brilliant-cut chippings, frosted, engraved silver, pearl and enamel, and gold filigree.

The new silk and linen batistes appear in natural flax colors, in white, and also in tints of pink, blue, etc. Many of the patterns have flowers woven to resemble embroidery, others show delicate lace stripes with warp-printed designs in floral colorings made of silk and linen. Tokyo is one of the newest and most desirable of the silk-and-linen mixtures displayed this season. A lace woven border for the season bears a resemblance to the old-fashioned kidskin tops, patent cloth-forging and tips and Cuban heels. Button boots in Vici had place kid tips, hand-wetted soles and military heels. New satin evening

shoes made on graceful French lasts have short vamps and Louis XV. heels. They are made in black and delicate tints of blue, pink, gray, etc. Firms in the city now take orders for evening footwear of every pattern and color matching with the evening dress, delivering the slippers or sandals at short notice.

The monocle, a new attachment to the delicate neck chains still fashionable, is made of gold, silver, tortoise shell, jet or enamel. The prices of the French styles range from \$10 to \$75 each. The "Kaiser" monocle, set with real jewels, is very much higher in price. The English or "Chamberlain" variety is also gem-set. Some of the tortoise-shell glasses are made with small handles like a lorgnette set in two. In America monocles have thus far been carried more as an ornament, but a few women in the ultra-fashionable world are seen wearing them at the various art galleries, theatres and importing houses of the city.

New styles in covert coats are set forth for the wear of women, young girls and children of any age. These are exhibited in short, three-quarter and figure-lengths, the front finished with large smooth-pearl buttons, or else there is an invisible fly front fastening. Coats of this kind are unlined, and besides forming very seasonable wraps for the entire spring season, they will prove very useful on cold days during the summer over gowns of foulard silk, pique, voile, etc.

New short-waist suits appear this week made of striped and dotted dimity, seersucker, fancy Madras, cotton chevrot, mercerized cable cord, khaki cloth and linens plain and embroidered. Tucks stitched to flounce dry it up at the back in the five-pointed flare skirt, and the fullness at the back is taken up in an inverted box plait.

Many of the new silk or satin sash ribbons are striped or barred with a line of black velvet, that makes them very becoming when used to blouse vest fronts, stocks, ribbon roses, etc. Entire waists are made of the wider ribbons, and a pretty result is obtained by tucking the silk or satin portions of the striped designs, leaving the black line untouched. This renders the velvet stripes quite prominent, producing a stylish effect. Novel French evening dresses of crepe de chine and chiffon, and tulle gowns of tulle and shirred India silk, crepe wool and tulle are displayed at the importing houses this week. The short-waist suits of plain and embroidered linen and those of mercerized cotton chevrot are trimmed with the new Tenebris embroideries, and tailor-made silk and linen foulards are decorated with strappings, tucks and tiny white buttons.

Chantilly and other of the lighter laces are now colored to match the gown, as well as the Russian patterns, the heavier Cluny, Flemish and Renaissance designs, and the yak, or soft Shetland weaves and all-overs that are used to trim spring gowns and costumes of light wool. These laces invariably match in color the garments they decorate, and besides the effective edgings and the flounce and fichu widths or broad insertion bands of sage green, deep or pale blue, soft corn yellow or other colored lace, that are between horizontal sections of the skirt, up more than half its length. On some of the new French dresses the blouse waist is formed entirely of the colored lace, and post-Edward tailors showing this effective trimming have been sharply criticized for entirely covering with dyed lace that matches the decorations used on the gown.

"Round hats will remain flat and wide" is the latest edict from Paris. Extremely wide brimmed hats may be expected for some time to come. This flatness on models just received from Paris is very frequently accentuated by a drape of falling fringe or lace attached to the brim of the hat all around like the mushroom shape of the early years of the last century. When very full skirts and sloping shoulders were among the styles of the time. Wreaths of crushed roses are laid flat around the plateau brims of hats prepared for Easter wear, and there are fewer loops of ribbon, sashette effects, or trimmings of any description than appeared on some of the fashionable winter styles.

New shirt waists of light wool in white, gray and fawn color have the box plaits, cuffs and girdle piped with tulle silk in bright tints of pink, blue, green, etc. Other waists are made of bands of white wool joined together with pale blue or pale green silk fagoting. These waists fasten at the back, blouse slightly in front, are fastened with small pearl buttons, and worn with dark blue or black skirts of cloth, velvet or zibeline.

For practical spring wear, costumes formed of box coats or plaited Norfolk jackets and plain skirts will be fashionable. Many of the spring models show a circular skirt in two-piece form, with an inverted box plait at the back, instead of the full skirt, with machine stitching as a finish. The high-necked box coat completes this style of skirt, and the Norfolk-jacket models have skirts that are either box or side-plaited. Among the hats are either of cloth, blue cravenette, mixed gray or frieze in tricolor blendings, chevrot, English serge and mohair.

A graceful Princess-shaped walking coat is shown at the importing houses of the city. It is a three-quarter length, fitting the form perfectly at the back and semi-loosely in front. All the seams are covered with narrow strappings of the coat fabric, a favorite material being the fine Scotch tweed in pale sage green and white. The sleeves are also strapped and gathered close to the elbow, from which they drop slightly and are gathered into small circular-shaped cuffs trimmed with silk gimp. The majority of the season's coats and jackets are made to match the skirt, this particular model is a separate garment to be worn with handsome skirts of various kinds.

Some neat walking costumes of Scotch tweed suiting in heather-colored mixtures with simple trimmings of narrow silk braid and small pearl ornaments are ready for the coming of milder weather. A model just completed by a designing house of this city is made of attractive and durable material. The flare skirt is shaped with seven rows arranged in back-belt, medium-wide tucks that are stitched down to flounce depth. This skirt is added to a gracefully-curved hip yoke that is covered with curving lines of braid. The yoke is omitted on the immediate front, the breadth of skirt reaching from belt to hem. The skirt produces a panel effect that gives length to the figure. The Eton blouse is laid in stitched tucks from shoulder to belt, and above this is a quaint shoulder cape edged with a single row of braid. No collar, but is finished with a stole-like band about four inches wide that is carried around the low-cut top of the cape, finished with braid, and trimmed at the end with dangling silk ornaments and fringes. The blouse sleeves are tucked on the outside of the arm and gathered into circular-shaped turn-back cuffs. Other gowns in this style are made of chevrot, London tissue cloth, and black brilliantine trimmed with narrow ecrû-tinted Luccelle insertions.

Blouse waists for young women are this season in as varied forms as those for their elders. A style easy to make and which washes well has the front on each side tucked to yoke depth, leaving the fullness below the tucked waist which droops over the narrow-shaped belt. The right side of the front laps considerably to the left in a diagonal line, and large pearl buttons are used as a finish. The back is plain with only slight fullness at the waist line. The blouse sleeve and the regular skirt-sleeve shape with silk cuffs are used in making these waists. The neck is finished with a narrow circular band, above which is worn a straight collar showing double rows of stitching at each edge.

American tailors and dressmakers are making constant use of the new cream and pure white Manchester cotton and linen damasks. These goods form many of the new short-waist suits, the skirts box plaited or tucked, the waists arranged to match, and finished down the front with very large shawl buttons. These materials are patterned in white, the silk mercerized figures showing basket and chevrot patterns in cubes, dots, plaques, moire and vine effects. The fabrics are closely woven, but light in weight, and are among the most desirable of the season's summer-day dress materials.—New York Evening Post.

## Our Lady Readers will Recognize This Picture.



A Fac-Simile of the One Printed on the Wrappers of

## Dobbins' Electric Soap

The soap their mothers used to delight in using. Dobbins' Electric is the same pure article it was when it was first made and cost up to 10 cents a bar. It is so good that it lasts as long and looks as white as they used to be. It is the cheapest soap, loaded with soap or other adulterants, that is sold as soap. Dobbins' is pure, and made of borax and the finest oils. It whitens the clothes, and preserves them. It is the greatest disinfectant in the world, sold by all grocers.

DOBBINS' SOAP MANUFACTURING CO., Sole Manufacturers, Philadelphia.

## The World Beautiful.

Lillian Whiting, in Boston Budget.

"Conversation will not corrupt us, if we come to the assembly in our own gown and speech, and with the energy of health to select what is good, and reject what is not. Society must have; but let it be society, and not exchanging news, or eating from the same dish. It is society to sit in one of your chairs? I cannot go to the houses of my nearest relatives, because I do not wish to be alone. Society exists by chemical affinity, and not otherwise."

"Put any company of people together with freedom for conversation, and a rapid self-distribution takes place. In the end, the best are accused of exclusiveness. It would be more true to say, they separate as oil from water, as children from old people, without love or hatred in the matter, each seeking his like; and any conference with the affinities would produce constraint and suffocation. All conversation is a magnetic experiment. I know that my friend can talk eloquently; you know that he cannot articulate a sentence; we have seen him in different company. Assort your party, or invite none. Put Stubbs and the brilliant and Aunt Miriam, into pairs, and you make them all wretched. 'Tis an extempore singing built in a parlor. Leave them to seek their own mates, and they will be as merry as sparrows.'—Emerson.

Of society, in the true sense, social life offers comparatively little. In the midst of ceremonial assembling one is starved for companionship. One may live in the very heart of what is held to be a brilliant social season and be as utterly lonely as if in a desert solitude. Indeed, the latter offers compensations which the former denies. There is a great deal of companionship, however unrecognized, in the cloud of witnesses that encompass us round about, and whose presence is less vividly felt in the gleam and glitter of ceremonial society. The more general assemblages of clubs, teas and receptions are so incorporated into the social life that one could cancel these if he would, nor would he, if he could. They have their uses. All exchange of human sympathies is good, even if it be somewhat superficial and spectacular. The more restricted exclusive gatherings of dinners are not without their spirit charm as occasions when conversation becomes possible on a less unsatisfactory scale than the exchange of inanities in crowded receptions. Yet, with due recognition of the stimulus and the brilliancy that one could cancel these if he would, nor would he, if he could. They have their uses. All exchange of human sympathies is good, even if it be somewhat superficial and spectacular. The more restricted exclusive gatherings of dinners are not without their spirit charm as occasions when conversation becomes possible on a less unsatisfactory scale than the exchange of inanities in crowded receptions. Yet, with due recognition of the stimulus and the brilliancy that one could cancel these if he would, nor would he, if he could. They have their uses. All exchange of human sympathies is good, even if it be somewhat superficial and spectacular. The more restricted exclusive gatherings of dinners are not without their spirit charm as occasions when conversation becomes possible on a less unsatisfactory scale than the exchange of inanities in crowded receptions. Yet, with due recognition of the stimulus and the brilliancy that one could cancel these if he would, nor would he, if he could. They have their uses. All exchange of human sympathies is good, even if it be somewhat superficial and spectacular. The more restricted exclusive gatherings of dinners are not without their spirit charm as occasions when conversation becomes possible on a less unsatisfactory scale than the exchange of inanities in crowded receptions. Yet,







## The Horse.

## Horse Markets Active.

Demand for horses of all standard grades seems unusually active everywhere, and the average of prices has risen within a few weeks. Business horses, farm and draft animals are called for largely. There is also a good market for roadsters and trotting stock of high grade.

Of this last class a dealer says: "The trouble is with the supply. We know what we want, and so do our buyers, but it is practically impossible to get enough horses to fill the bill. Fair business is being done in horses of medium character, but the best are in the hands of men who have to be tempted to sell. Prices are consequently away above those of last year, and there is little hope of any change in the situation in the near future. The demand is growing because the leisure class is increasing. The supply is short because several years ago breeders stopped breeding on account of the panic and consequent low prices. Animals worth \$2000 today were sold then for \$200. Foreign buyers snapped them up. Then came an abnormal demand in this country, until the supply of really sensational horses became exhausted. The export trade is small now simply because we have not sufficient good harness horses in this country to supply local wants, and we can get better prices right here for high-class carriage horses than the foreign agents will pay. There is no other country that we can call upon for supply. There is the situation in a nutshell." The dealer urges the farmers to breed such stock and compete with the unreasonable prices asked by wealthy owners of fancy stock farms.

One of the best-known buyers of sensational horses, W. H. Louke of New York, expresses himself as "afraid that in a few years the trotting-bred high stepper will become extinct unless the United States Government inaugurates some system for the preservation of the type. What with horse-show enthusiasts paying abnormally high prices for high steppers, it is found that trotting-bred stallions, heretofore kept for the production of speedy trotting stock, are more valuable if sent to the show-ring market. Such horses have been cleaned out of the breeding districts, or practically so. As many as twenty stallions have been converted to heavy harness in a month. Mr. Louke finds the quality of stock now on the trotting farms of mediocre character as compared with the material heretofore available. Like many other horsemen, he advocates the placing of sires at nominal fees about the country by the Government. The plan has been found advantageous in France and other countries. If something of the sort is not quickly resorted to, the trotting-bred type of carriage horses will become as extinct as the old-fashioned Morgans. The trotter of the racing type can take care of itself. What is requisite is the preservation of the handsome type of trotting-bred carriage horse."

Bicyclists soon learn that sand or mud is as bad as a hill. The situation is not quite the same with a wagon, but a rise of one foot in ten doubles the draught, and an average stretch of sand or mud produces about the same effect. Wide tires save power on soft roads. Large wheels save power on rough roads.

It is a good sign when a driver talks frequently with his horses.

A good horseman and a good horse commonly go together, and neither will have much need of a whip.

No engine power without fuel and no horse power without food. The horse can show no more energy than is given him in his food.

One of the best "powders" for a horse a little out of condition is a daily feed of bran to which is added half a pound of flaxseed. It will loosen the bowels and put shine on the coat.

## Notes from Washington, D. C.

The new agrostologist of the Department of Agriculture, Prof. W. J. Spillman, has a series of maps from Census Office figures showing the distribution of hays, clovers and green feeding stuffs over the United States. Clover and timothy are found generally in the East, and alfalfa in the West, where also considerable barley and wheat are cut for hay. The most striking feature of the exhibit is the small amount of hay of any kind produced throughout the entire South. A tremendous transformation must come before the South will again become agriculturally rich," said Professor Spillman. "Cotton was once a profitable crop, but it has come to the point now where farmers are losing money on this crop, no replenishment of soil fertility is practiced, even the cotton seed is shipped away, and they are selling their farms with their crops. The hope of the South lies in raising live stock and growing more grasses and cow-peas. The natural soil conditions throughout much of the South are excellent, but the land has been worn to a thread. Compare Illinois and Georgia. The census figures show that on the regular Georgia farms, not the truck farms alone, but on the field crops, commercial fertilizers are used in enormous quantities—to as great an extent as in any State, and yet the general run of farmers are losing rather than making money. Illinois, on the contrary, uses almost no commercial fertilizer. She raises live stock and grows grasses and clovers, and her land is growing so rich that wheat breaks down."

Professor Spillman succeeds Lamson-Scribner as agrostologist of the Department of Agriculture, who was sent to the Philippines in charge of the Government Experiment Station. Professor Spillman comes from Pullman, Wash., where he worked along Government agricultural lines for some eight years. Pullman is situated in what is known as the Palouse country, the great wheat section of Washing-



ABERDEEN, BY RYSDYK'S HAMBLETONIAN; DAM, WIDOW MACHREE, 2.29, BY SEELY'S AMERICAN STAR.

ton. The best farmers of the Palouse, Professor Spillman says, average about forty bushels of wheat to an acre without irrigation. In fact, this yield is produced with only twenty or twenty-two inches of annual rainfall. Good crops of wheat are raised on as little as twelve inches. Professor Spillman himself raised 61 to 10 bushels per acre, land measured and wheat weighed. The Palouse country, however, has an extremely fertile soil formed from overflow lava beds. No soil, it is said, exceeds in fertility disintegrated lava, and there is practically no bottom to this soil. In one place the Snake river has cut through this lava five thousand feet, forming a gorge hardly second to the Grand Canyon of Colorado.

The Department of Agriculture has issued a pamphlet summing up the results of an experiment by the Wisconsin station, showing that the claim that a nurse crop is necessary for grass and clover sowing is without foundation. There is no need whatever for sowing oats, barley or any other grain with grasses for the purpose of yielding shade and protection. "Young grass and clover plants are not injured by direct sunlight and heat more than other plants of our fields." The experiments, made over a series of years, show that grasses and clover sown by themselves on properly prepared soil spring up at once and make rapid growth, bearing seed heads the same season. The objection that weeds will spring up can be overcome largely by running a mower over the field when the weeds are about eight inches high, setting the cutter bar so that the tops of the weeds are cut while the grass plants are not hurt. Soil, however, to be planted in this way should be fairly free from weed seeds. It is recommended to sow seed early in the spring. Experiments similar to the above have also been carried out in New Jersey, where the seed was, however, sown in the fall. In either event a very fine tilth is essential to a good stand.

The definition given by the Department of Agriculture for protein (nitrogenous matter) in food is "the name of a group of substances containing nitrogen. The protein furnishes the materials for the lean flesh, blood, skin, muscles, tendons, nerves, hair, horns, wool, the casin of milk, albumen of eggs, etc. It is one of the most important constituents of food stuffs." The albuminoids are included under the general head of protein. The albumen of the egg is a type of albuminoid. The carbohydrates in food and feed stuff form the antithesis of protein. While protein produces muscle and bone, carbohydrates produce fat or fuel for the working of the body. The most important and common carbohydrates are sugar and starch. What the farmer is interested in is getting a properly balanced ration, with sufficient of protein and sufficient of carbohydrates to insure the best digestion and growth.

Canadian farmers are making arrangements to enter into cattle raising on a large scale, according to Robert T. Garrett of Omaha, who was a caller recently at the Department of Agriculture. A number of Canadians, he said, have visited Omaha recently to purchase stock. They are buying cows in large numbers and shipping them to Dominion ranches. Many carloads of Hereford cattle have already been shipped and more are to follow.

Upon the temperature of milk depends the rate of growth and propagation of bacteria. When milk is cooled to 50° or less, growth is very slow and some bacteria do not multiply at all.

Exports of breadstuffs for February were \$17,000,000, against \$11,308,000 for February of last year. Exports of cattle and hogs for February were \$2,536,000, against \$1,807,000 for February a year ago, and exports of meat and dairy products were \$13,369,000, against \$12,835,000 for February, 1902.

The commercial fertilizer used annually

in the United States amounts to between \$40,000,000 and \$50,000,000. Most of the States have provided for official inspection of fertilizer to protect the farmer from fraud. The heaviest applications are made in the Southern States. In some of the prairie States hardly any commercial fertilizers are used.

Cotton exports, according to the Treasury figures, appear to be bringing the Southern farmer a record-breaking amount of money. The February exports amounted to \$37,423,000, against \$24,768,000 for February of last year, \$22,320,000 for February, 1901 and \$30,848,000 for February of 1900. For the eight months of the fiscal year ending with February, 1903, the exports were \$243,000,000, against \$231,000,000 in the corresponding eight months of 1902, \$237,000,000 in 1901 and \$164,000,000 in 1900. In these eight months of 1903 the exports were a little in excess of those of this year, being 5,671,543 bales, against 5,529,386 bales in 1902, but the value was only \$173,207,000, against \$243,000,000, as shown above.

The Secretary of Agriculture has issued an order calling attention to the prevalence among horses in certain sections of Nebraska and South Dakota of infectious venereal disease known as *maladie du coit* and prohibiting interstate shipments of any horses so affected, unless they shall have been inspected by the Bureau of Animal Industry. Orders have also been issued requiring the castration of all stallions running at large on the Pine Ridge and Rosebud Indian reservations and the quarantine of other stallions, the idea being to prevent the spread of the disease and breeding among horses which may have it. Department officials are authorized to quarantine and condemn and slaughter any horses necessary to the stamping out of the disease, the owners to be remunerated in case of slaughter.

Texas farmers are being stirred up to a point where dairying on a large scale will soon be another of the thriving industries of the Lone Star State, according to F. T. Rawlins of Austin, a recent visitor at the Department of Agriculture. "Our farmers," he said, "are just beginning to appreciate our natural conditions for successful dairying, and that we have the whole world for a market. Southern cottonseed meal goes to Denmark and is fed to the cows in that country, and the butter made there is sold in the English market in competition with that made in the United States. Now our farmers have gotten it into their minds that if the Danish farmers can afford to buy Texas cottonseed meal and make butter to sell in England at a profit, there is no reason why they should not go extensively into the business and use their own cottonseed to feed their own cows and sell their own butter in the United States and other foreign countries."

So long as American farmers sell the rough products of the soil to other people they are dividing the profits which they should themselves reap, and are also taking fertility from their farms which they should keep in the soil. The practice of feeding grains and other crops on the farm and shipping the finished product, whether it be beef, mutton or hog meat, or butter or cheese, is one which Secretary of Agriculture Wilson has urged at various times as absolutely necessary to the upbuilding of American agriculture.

"It is time, and it has been time for some time," said Secretary Wilson, in speaking of the "run-down" farm, "that our farmers who are selling stock feed the farm and shipping it abroad, should get it into their heads that it will pay them better to keep it at home and feed it. Every one will admit the wisdom of this, and yet thousands of our farmers continue the practice of selling everything they raise, and do not think out any better plan. But we must keep the fertility in our farm lands if we would remain agriculturally supreme. Instead of

this entire area are getting poorer and poorer. Keep the farm crops on the farm and ship the meat and the butter and milk and cheese. That is the thing to do.

"Now, as one instance, American cheese and butter ought to go abroad, and we have had men out trying to find a good market for it in foreign countries. Our farmers can make the best and cheapest butter and cheese of any country in the world, but what have our agents found? Why, in the matter of dairy products, one class of American farmers is furnishing the very weapons to enable foreigners to defeat other American farmers, with distinct loss to both classes of American farmers. We find European markets supplied by Danish butter and cheese. Yet, as I have often said, the Danes could not export a single cheese or a print of butter if the Mississippi valley farmer did not sell them the feed, and this at a detriment to American farm soil."

With the new Congressional appropriation the Department of Agriculture expects to have an up-to-date hothouse for the various forcing and other experiments being carried on. Instead of a great number of heating plants one for each building, there will be a central plant where the supply for each hothouse can be regulated.

Many farmers are drawing against their bank accounts to a greater extent than the amount of their annual deposits. The fertility in their soils is their bank account and they are constantly depleting it. And yet, if they will, they can instead add to their bank account. They can do better cultivation and plow under more legumes and feed their crops on the farm, selling the meat or dairy products rather than the grain, and thus constantly add to their bank account of farm fertility. And this with the use each year of less and less commercial fertilizer.

An instructive feature of the Agricultural Department exhibit at St. Louis will be the growing of various poisonous farm plants. Plots will also be grown showing diseases as affecting various plants, to serve as object lessons.

"Till, Feed, Spray" is the trinity of work recommended by Professor Bailey of Cornell, if the farmer and fruit grower would secure the largest measure of success.

—GUY E. MITCHELL.

## High-Grade Fertilizers.

There are all kinds of fertilizers, as there are all kinds of people, but that's not the question. The question is which brand of

fertilizer seems to give the most value for the least money.

In this community, at any rate, it would seem that Read's High-Grade Fertilizers are the king pin fertilizers. This is evidenced by the large uniformly good crops which they produce.

By addressing the Read Fertilizer Works, Boston or New York, you will receive particulars about these high-grade fertilizers.

## THIS NAME



## IN THE GRAIN

is a guarantee of a speedy and successful harvest. Time is money to every farmer and is always worth more when the grain is ripe than at any other season of the year; therefore, it pays the farmer well to own the McCormick—the binder that not only saves his grain, but also saves his money in saving his time.

## "A MODEL MACHINE"

is the title of the McCormick binder for 1903. If interested in machines write for it.

T. A. McCORMICK, GENERAL AGENT,  
McCormick Machines, Boston, Mass.

## GREAT CROPS OF STRAWBERRIES

## AND HOW TO GROW THEM

The best book on strawberry growing ever written. It tells how to grow the biggest crops of big berries ever produced. The book is a treatise on the science of strawberry growing and how to make plants bear big berries and lots of them. The only thoroughbred scientific grown strawberry plants to be had for spring planting. One of them is worth a dozen common scrub plants. They grow BIG RED BERRIES. The book is sent free to all readers of the American Cultivator. Send your address to R. M. KELLOGG, Three Rivers, Michigan.

## FOOT AND MOUTH DISEASE.

We have the preventive and cure in Purifier, an antiseptic and disinfectant chemical in liquid form, containing the astringent healing and purifying properties in solution. Simply diluting with warm water, as per directions we furnish, prepares it as a wash for the mouth, allowing some of the water to be swallowed, and acts as a laxative. The foot can be soaked and washed, and the udder brushed to arrest the disease and effect a speedy cure. The stables sprayed, sprinkled, and purified, and kept in excellent sanitary condition, acting as a preventive to the spread of the disease. A one-gallon bottle for \$2. Charge paid to your express office.

For further particulars address  
FITCH CHEMICAL CO., Bay City, Mich.

Good agents wanted.

## STEEL ROOFING

## FREIGHT CHARGES PAID BY US

Strictly new, perfect, Semi-Harder steel sheets, 2 feet wide, 6 feet long. The best roofing, paling or siding you can want. No experience necessary to lay it. An ordinary hammer or rolling pin will do the work. We furnish nails free and send roofing sheets in 2500, 5000, 10,000, 20,000, 50,000, 100,000, 200,000, 500,000, 1,000,000, 2,000,000, 5,000,000, 10,000,000, 20,000,000, 50,000,000, 100,000,000, 200,000,000, 500,000,000, 1,000,000,000, 2,000,000,000, 5,000,000,000, 10,000,000,000, 20,000,000,000, 50,000,000,000, 100,000,000,000, 200,000,000,000, 500,000,000,000, 1,000,000,000,000, 2,000,000,000,000, 5,000,000,000,000, 10,000,000,000,000, 20,000,000,000,000, 50,000,000,000,000, 100,000,000,000,000, 200,000,000,000,000, 500,000,000,000,000, 1,000,000,000,000,000, 2,000,000,000,000,000, 5,000,000,000,000,000, 10,000,000,000,000,000, 20,000,000,000,000,000, 50,000,000,000,000,000, 100,000,000,000,000,000, 200,000,000,000,000,000, 500,000,000,000,000,000, 1,000,000,000,000,000,000, 2,000,000,000,000,000,000, 5,000,000,000,000,000,000, 10,000,000,000,000,000,000, 20,000,000,000,000,000,000, 50,000,000,000,000,000,000, 100,000,000,000,000,000,000, 200,000,000,000,000,000,000, 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